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THE INDUSTRIAL ARTS INDEX

FIRST TWO-YEAR CUMULATION
[SEVENTH ANNUAL VOLUME]

1918 — 1919

SUBJECT INDEX TO A SELECTED LIST OF ENGINEERING
AND TRADE PERIODICALS

EDITED BY
MARION E. POTTER AND
LOUISE D. TEICH

THE H. W. WILSON COMPANY
NEW YORK

1919

THE
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Industrial Arts Index

Vol. VII

December, 1919

No. 10

Published monthly, except July and November by
THE H. W. WILSON COMPANY

958-964 University Ave New York City

Full information in regard to subscription
price will be supplied on request.

Put out of sight or discard altogether your 1918 annual volume of the Industrial Arts Index. This is not a command but a friendly warning. Since this volume is a cumulation covering the years 1918 and 1919 and therefore includes everything that the 1918 cumulation contains, the use of the 1918 annual would be a waste of time; all the benefit which justifies the added labor and cost of putting together in one alphabet the two years' record would be lost.

After proving mathematically that during a ten year period there is greater efficiency in the two-yearly or three-yearly than in five-yearly cumulations, the publishers of the Industrial Arts Index sought an expression of opinion from their subscribers, with the result that the two-year plan was adopted. Hereafter, if this plan proves satisfactory, an annual cumulation, covering one year, will be published in the even years and a two-year cumulation will be published in the odd years.

On the following pages will be found a list of periodicals indexed. A few of these are indexed only from January 1919. These are: Architectural Forum, Aviation, Color Trade Journal, Electric Journal, Flying, Journal of Electricity, Marine Review. Owing to the delay in publishing caused by the printers' strike last fall, the December numbers of the New York periodicals did not appear in time for indexing in this volume but will be included of course in the next current issue.

In response to the wishes of our subscribers, ascertained by a carefully tabulated vote, the following additional magazines have been selected for indexing in 1920:

American Ceramic Society. Journal
American Electrochemical Society. Proceedings
American Journal of Science
American Society for Testing Materials. Proceedings
American Society of Refrigerating Engineers. Journal
Blast Furnace and Steel Plant
Canadian Engineer
Chimie et Industrie
Commercial and Financial Chronicle
Electrician
Engineering
India Rubber World
Institution of Mechanical Engineers. Journal
Journal of Physical Chemistry
Mining and Scientific Press
Monthly Labor Review
National Petroleum News
Nation's Business
Paper
Popular Mechanics
Power Plant Engineering
Printers' Ink
Society for the Promotion of Engineering Education. Proceedings
Society of Automotive Engineers. Journal
Society of Chemical Industry. Journal
U.S. Bureau of Labor Statistics. Bulletin
U.S. Geological Survey. Bulletin
Wireless Age

The method of selecting periodicals by vote insures the indexing of those that are actually in use in libraries. It is also the policy of the Industrial Arts Index to index each magazine very closely. In the case of the more important periodicals found in the majority of libraries subscribing to the Index, even short paragraphs are often indexed, and articles of value are usually assigned several subject headings in order that every aspect of the subject may be covered. The headings moreover are made very specific and many

NOTES AND ANNOUNCEMENTS

sub-headings are made in order that the user of the Index may not have to read thru a long list of references to find material on the particular phase of a subject in which he is interested.

It may be permissible to refer those interested in farm buildings, agricultural machinery, rural sanitation, and other branches of agricultural engineering to the Agricultural Index for additional material on these subjects. Material on commercial subjects which will be more largely represented hereafter in the Industrial Arts Index may also be found in the Readers' Guide to Periodical Literature. But the addition of Printers' Ink, Commercial

and Financial Chronicle and Nation's Business to the list of magazines indexed in the Industrial Arts Index will make it one of the most useful tools of the business library.

Miss Charlotte Noyes deserves credit for a good part of the indexing of the 1918 periodicals. Miss Jessica Doty, formerly of the Engineering Societies Library, has recently assisted in the indexing. Miss Emily Anderson and Miss May Carpenter have prepared copy for the printer and assisted in proof-reading. Miss Elsie Schonholtz has type-written a large part of the copy. Miss Louise Teich in addition to editorial work has supervised the Index from its beginning in 1913.

List of Periodicals Indexed

- Am Arch**—The American Architect. \$10; single numbers 25c. Architectural & Building Press, Inc., 243 W 39th St, New York.
- Am Chem Soc J**—Journal of the American Chemical Society. \$6. Charles L. Parsons, sec., 1709 G St, N. W., Washington, D.C.
- Am Gas Eng J**—American Gas Engineering Journal. \$3; single numbers 10c. American Gas Light Journal, Inc., 150 Nassau St, New York. Formerly American Gas Light Journal.
- Am Gas Inst Pro**—Proceedings of the American Gas Institute, tenth and eleventh annual meetings, 1915-1916. ea \$7.50 to libraries. American Gas Institute, 29 W 39th St, New York.
- Am Gas Light J**—See Am Gas Eng J
- Am Ind**—American Industries. \$1; single numbers 10c. National Manufacturers Co., 30 Church St, New York.
- Am Inst Arch J**—Journal of the American Institute of Architects. \$5; single numbers 50c. American Institute of Architects, The Octagon, Washington, D. C.
- Am Inst E E Pro**—American Institute of Electrical Engineers. Proceedings. \$10; single numbers \$1. F. L. Hutchinson, sec., 33 W 39th St, New York.
- Am Inst Min Bul**—Bulletin of the American Institute of Mining and Metallurgical Engineers. subs. \$10; single numbers \$1; to members, public libraries, and educational institutions, \$5; single numbers 50c. B. Stoughton, sec., 29 W 39th St, New York.
- Am Lumberman**—American Lumberman. \$4; single numbers 15c. American Lumberman, Manhattan Bldg., 431 S. Dearborn St, Chicago.
- Am Mach**—American Machinist. \$5; single numbers 20c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Am Soc Heat & V E**—Transactions of the American Society of Heating and Ventilating Engineers. American Society of Heating and Ventilating Engineers, 29 W 39th St, New York.
- Am Soc M E J**. See Mech Eng
- Am Water Works Assn J**—Journal of the American Water Works Association. \$5; American Water Works Assn., Mount Royal and Guilford Avenues, Baltimore, Md.
- Arch & Bldg**—Architecture and Building. \$2.50; single numbers 25c. William T. Comstock Co., 23 Warren St, New York.
- Arch Forum**—Architectural Forum. \$6; single numbers 60c. Rogers and Manson Co., 85 Water St, Boston.
- Arch Rec**—Architectural Record. \$3; single numbers 35c. Architectural Record Co., 115 W 40th St, New York.
- Automobile**—See Automotive Ind
- Automotive Ind**—Automotive Industries. \$3; single numbers 20c. Class Journal Co., 231 W 39th St, New York. Formerly Automobile
- Aviation**—Aviation and Aeronautical Engineering. \$3; single numbers 25c. Gardner-Moffat Co., Inc., Hartford Bldg., 22 E 17th St, New York.
- Bldg Age**—Building Age. \$2; single numbers 25c. Architectural and Building Press, Inc., 243 W 39th St, New York.
- Boston Soc C E J**—Journal of the Boston Society of Civil Engineers. \$4 (ten numbers); single numbers 50c. Boston Society of Civil Engineers, 715 Tremont Temple, Boston.
- Chem & Met Eng**—Chemical and Metallurgical Engineering. \$3; single numbers 25c. McGraw-Hill Co., Inc., 10th Av, at 36th St, New York. Formerly Metallurgical and Chemical Engineering
- Coal Age**—Coal Age. \$3; single numbers 15c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Color Tr J**—Color Trade Journal. \$5; single numbers 50c. Color Trade Journal, Inc., 21 E 40th St, New York.
- Concrete**—Concrete. \$2; single numbers 20c. Concrete-Cement Age Pub. Co., Telegraph Bldg., Detroit, Mich. Formerly published as Concrete-Cement Age.
- Dom Eng**—Domestic Engineering. \$2; single numbers 10c. Domestic Engineering Co., 407 S Dearborn St, Chicago.
- Econ Geol**—Economic Geology. \$3.50; single numbers 60c. Economic Geology Pub. Co., 41 North Queen St, Lancaster, Pa.
- Elec J**—The Electric Journal. \$2; single numbers 20c. The Electric Journal, 1204 Keenan Bldg., Pittsburgh, Pa.
- Elec Ry J**—Electric Railway Journal. \$4; single numbers 15c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Elec R**—Electrical Review. \$3; single numbers 10c. International Trade Press, Inc., 542 Monadnock Bldg., Chicago. Formerly Electrical Review and Western Electrician.
- Elec W**—Electrical World. \$5; single numbers 15c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Engineer**—Engineer. Thick paper ed £3 7s 6d; Canadian subs £3 3s; thin paper ed £3 3s; Canadian subs £2 18s 6d. Engineer, 33 Norfolk St, Strand, London, W.C. 2.
- Eng & Contr**—Engineering and Contracting. \$3. Engineering and Contracting Pub. Co., 608 S Dearborn St, Chicago.
- Eng & Min J**—Engineering and Mining Journal. \$5; single numbers 20c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Eng N**—Engineering News-Record. \$5; single numbers 20c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York. Engineering News consolidated with Engineering Record beginning April 5, 1917.
- Eng Rec**—See Eng N
- Eng Soc W Pa**—Proceedings of the Engineers' Society of Western Pennsylvania. \$5; single numbers 50c. Engineers' Society of Western Pennsylvania, 568 Union Arcade Building, Pittsburgh, Pa.
- Factory**—Factory. \$3; single numbers 25c. A. W. Shaw Co., Wabash Av & Madison St, Chicago.
- Flying**—Flying. \$3; single numbers 25c. Flying & Assn., Inc., 280 Madison Av, New York.
- Foundry**—Foundry. \$2; single numbers 15c. Penton Pub. Co., Penton Bldg., Cleveland, O.
- Gas Age**—Gas Age. \$3; single numbers 25c. Progressive Age Pub. Co., 52 Vanderbilt Av, New York. Formerly Progressive Age.
- Gen Elec R**—General Electric Review. \$2; single numbers 20c. General Electric Co., Schenectady, N. Y.
- Good Roads n s**—Good Roads new series. \$3; single numbers 10c. E. L. Powers Co., 150 Nassau St, New York.
- Heat & Ven**—Heating and Ventilating Magazine. \$2; single numbers 20c. Heating & Ventilating Magazine Co., 1123 Broadway, New York.
- Horseless Age**—Horseless Age. \$1; single numbers 10c. Horseless Age Co., 95 Madison Av, New York. Horseless Age consolidated with Motor Age, Motor World and Automotive Industries in June, 1918, with title Motor Age.

LIST OF PERIODICALS INDEXED

- Ill U Eng Exp Sta Bul**—Illinois University Engineering Experiment Station. Bulletin. Univ. of Ill., Urbana.
- Ill U Eng Exp Sta Circ**—Illinois University Engineering Experiment Station. Circular. Univ. of Ill., Urbana.
- Illum Engr**—Illuminating Engineer. 12s 6d; single numbers 1s 3d. Illuminating Engineering Pub. Co., 32 Victoria St, London, S. W. 1.
- Illum Eng Soc**—Transactions of the Illuminating Engineering Society. \$5; single numbers 75c. Illuminating Engineering Soc., 29 W 39th St, New York.
- Ind Management**—Industrial Management. \$3; single numbers 35c. Industrial Management, 6 E 39th St, New York.
Formerly Engineering Magazine.
- Inland Ptr**—Inland Printer. \$4; single numbers 40c. Inland Printer Co., 632 Sherman St, Chicago.
- Inst E E J**—Journal of the Institution of Electrical Engineers. single numbers 7s. E. & F. N. Spon, Ltd., 57 Haymarket, London, S. W. 1; Spon & Chamberlain, 123 Liberty St, New York.
The Institution premises have been taken over by H. M. Government and the temporary offices are at 1 Albemarle Street, London, W. 1.
- Int Marine Eng**—International Marine Engineering. \$2. Aldrich Pub. Co., 6 E. 39th St, New York.
- Iron Age**—Iron Age. \$5; single numbers 25c. Iron Age Pub. Co., 239 W 39th St, New York.
- Iron Tr R**—Iron Trade Review. \$4; single numbers 15c. Penton Pub. Co., Penton Bldg., Cleveland, O.
- J Account**—Journal of Accountancy. \$4; single numbers 35c. Ronald Press Co., 20 Vesey St, New York.
- J Elec**—Journal of Electricity. \$2.50; single numbers 25c. Technical Pub. Co., 171-173 Second St, San Francisco, Cal.
- J Fr Inst**—Journal of the Franklin Institute. \$5; single numbers 50c. Franklin Institute, Philadelphia.
- J Ind & Eng Chem**—Journal of Industrial and Engineering Chemistry. \$6; single numbers 60c. American Chemical Society, Easton, Pa.
- Locomotive**—Locomotive. 50c; single numbers gratis; recent bound volumes \$1. Hartford Steam Boiler Inspection & Insurance Co., Hartford, Conn.
- Mach**—Machinery. Engineering edition \$3; single numbers 35c. Industrial Press, 140 Lafayette St, New York.
- Marine R**—Marine Review. \$2; single numbers 20c. Penton Pub. Co., Penton Bldg., Cleveland, O.
- Mech Eng**—Mechanical Engineering, the Journal of the American Society of Mechanical Engineers. \$3; single numbers 35c. American Society of Mechanical Engineers, 29 W 39th St, New York.
- Met & Chem Eng**—See Chem & Met Eng
- Metal Ind**—Metal Industry. \$1; single numbers 10c. Metal Industry Pub. Co., 99 John St, New York.
- Metal Work**—Metal Worker, Plumber & Steam Fitter. \$3; single numbers 10c. Architectural & Building Press, Inc., 243 W 39th St, New York.
- Mining and Metallurgy**. See Am Inst Min Bul
- Mo U Sch Mines & Met Bul**—Bulletin of the University of Missouri, School of Mines and Metallurgy. Univ. of Mo., Rolla.
- Mo U Sch Mines & Met Bul tech ser**—Bulletin of the University of Missouri, School of Mines and Metallurgy, Technical Series. Univ. of Mo., Rolla.
- Motor Age**—Motor Age. \$3; single numbers 20c. Class Journal Co., 59 E. Madison St, Chicago.
- Munic Eng**—Municipal and County Engineering. \$2; single numbers 25c. Engineering Pub. Co., 702 Wulsin Bldg., Indianapolis, Ind.
- Munic J**—Municipal Journal and Public Works. \$3; single numbers 10c; special numbers 25c. Municipal Journal and Engineer, Inc., 243 W 39th St, New York.
- Power**—Power. \$3; single numbers 10c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Ry Age**—Railway Age. \$5; single numbers 15c. Simmons-Boardman Pub. Co., Woolworth Bldg., New York.
Formerly Railway Age Gazette
- Ry Mech Eng**—Railway Mechanical Engineer including the American Engineer. \$2; single numbers 20c. Simmons-Boardman Pub. Co., Woolworth Bldg., New York.
Formerly Railway Age Gazette, Mechanical edition.
- Ry R**—Railway Review. \$4; single numbers 15c. Railway Review, 537 S Dearborn St, Chicago; 30 Church St, New York.
Formerly Railway and Engineering Review.
- Sci Am**—Scientific American. \$5; single numbers 10c. Munn & Co., 233 Broadway, New York.
- Sci Am S**—Scientific American Supplement. \$5. single numbers 10c. Munn & Co., 233 Broadway, New York.
Changed to Scientific American Monthly beginning January, 1920.
- Sibley J**—Sibley Journal of Engineering. \$2; single numbers 20c. Sibley College, Cornell Univ., Ithaca, N. Y.
Suspended publication temporarily.
- Stevens Ind**—Stevens Indicator. \$1.50; single numbers 50c. Stevens Institute of Technology, Hoboken, N. J.
- Textile World**—Textile World Journal. \$3. Bragdon, Lord & Nagle Co., 334 4th Av, New York.
Formerly published as Textile World Record, monthly at \$2
- U S Agric Bul**—United States. Dept. of Agriculture. Bulletin. Distributed free of charge. U. S. Dept. of Agriculture, Division of Publications, Washington, D. C.
Contributions from the Bureau of Chemistry, Forest Service and Office of Public Roads are indexed, also selected publications of other bureaus.
- U S Bur For & Dom Com**—United States. Bureau of Foreign and Domestic Commerce. Special agents series. U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C.
- U S Bur For & Dom Com misc ser**—United States. Bureau of Foreign and Domestic Commerce. Miscellaneous series. U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C.
- U S Bur Mines Bul**—United States. Bureau of Mines. Bulletin. Distributed free of charge. U. S. Bureau of Mines, Washington, D. C.
- U S Bur Mines Circ**—United States. Bureau of Mines. Miners' circular. U. S. Bureau of Mines, Washington, D. C.
- U S Bur Mines Tech Pa**—United States. Bureau of Mines. Technical paper. U. S. Bureau of Mines, Washington, D. C.
- U S Bur Stand Bul**—United States. Bureau of Standards. Bulletin. Gratis to educational and scientific institutions and to government depositories. U. S. Bureau of Standards, Washington, D. C.
Discontinued
- U S Bur Stand Circ**—United States. Bureau of Standards. Circular. U. S. Bureau of Standards, Washington, D. C.
- U S Bur Stand Sci Pa**—United States. Bureau of Standards. Scientific papers. U. S. Bureau of Standards, Washington, D. C.
- U S Bur Stand Tech Pa**—United States. Bureau of Standards. Technologic papers. U. S. Bureau of Standards, Washington, D. C.
- U S Sp Cons Rep**—United States. Special consular reports. U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C.
- W Soc E J**—Journal of the Western Society of Engineers. \$3 (ten numbers); single numbers 50c. Western Society of Engineers, 1735 Monadnock Bldg., Chicago.
- Wis U Bul Eng S**—Bulletin of the University of Wisconsin, Engineering Series. Univ. of Wis., Madison

List of Pamphlets Indexed

- Boston public library, Boston, Mass.**
Occupations; short lists of books in the public library. (Brief Reading Lists no 9)
- Bureau of railway economics.**
Misc. ser. 33. Railway stockholders: December 31, 1917.
Winter railroadings.
- California industrial accident commission, 525 Market St., San Francisco.**
Mine safety rules.
Quarry safety rules.
Safety rules for gold dredges.
- California safety news. Industrial accident commission, San Francisco.**
Bulletins.
V. 2, no. 3, March, 1918.
V. 2, no. 4, April, 1918.
- Canada honorary advisory council for scientific and industrial research, Ottawa.**
Report.
3. De-tarring of gas by electrical precipitation. J. G. Davidson.
- Council of national defense. Woman's committee.**
Woman in the war; a bibliography. M. R. Nims.
- Federal board for vocational education, Washington, D.C.**
Bulletin.
11. Emergency war training for oxy-acetylene welders.
- Iowa state college. Engineering experiment station, Ames.**
Bulletins.
39. Good roads and community life in Iowa. J. E. Brindley and J. S. Dodds.
46. Electric pumping with results of tests and operating records. H. W. Wagner.
52. Spacing and depth of laterals in Iowa underdrainage systems and the rate of runoff from them with data from investigations. W. J. Schlick.
189. Silo construction. C. K. Shedd and W. A. Foster.
- New York (state). Department of labor.**
Special bulletin.
86. Dangers in the manufacture and industrial uses of wood alcohol.
- Press of the engineer school, Washington, D.C.**
Professional memoirs.
v.9, no.48. Poisonous gases in warfare. H: E. Haferkorn and F. Neumann.
v.10, no.54, supp2. Screw threads. H: E. Haferkorn.
- Russell Sage Foundation library, 130 E. 22d St., N.Y.**
Bulletin.
36. Industrial hygiene.
- Technical association of the pulp and paper industry, 131 E. 23d St., N. Y.**
Technical association papers. Series 2.
Literature of the paper industry. p. 11-23. M. Hubbard.
- United States. Bureau of applied economics, Washington, D. C.**
Changes in cost of living, 1914-1919.
Standards of living.
Wages in various industries.
- United States. Bureau of the Census.**
Bulletin.
135. Cotton production and distribution, season of 1916-17.
- United States. Bureau of Foreign and Domestic Commerce.**
Tariff series.
27. Foreign tariff notes.
37. Customs tariff of Australia. L. Domeratzky.
39. British control of imports and exports, with lists of prohibited goods. L. Domeratzky.
- United States. Bureau of Labor Statistics.**
Bulletins.
215. Industrial experience of trade-school girls in Massachusetts.
217. Effect of workmen's compensation laws in diminishing the necessity of industrial employment of women and children. M. K. Conyngton.
218. Wages and hours of labor in the iron and steel industry: 1907-1915, with a glossary of occupations.
225. Wages and hours of labor in the lumber, millwork, and furniture industries, 1915.
227. Proceedings of the Employment managers' conference, Philadelphia, Pa., April 2-3, 1917.
231. Mortality from respiratory diseases in dusty trades. F: L. Hoffman.
234. Safety movement in the iron and steel industry, 1907-1917. L. W. Chaney and H. S. Hanna.
235. Employment system of the Lake carriers' association. P. F. Brissenden.
236. Effect of the air hammer on the hands of stonecutters.
239. Wages and hours of labor in cotton goods manufacturing and finishing, 1916.
240. Comparison of workmen's compensation laws of the United States up to December 31, 1917. C. Hookstadt.
242. Food situation in Central Europe, 1917.
244. Labor legislation of 1917.
247. Proceedings of the Employment managers' conference, Rochester, N. Y., May 9, 10, and 11, 1918.
249. Industrial health and efficiency.
254. International labor legislation and the society of nations. yS. Bauer.
255. Joint industrial councils in Great Britain.
257. Labor legislation of 1918.
261. Wages and hours of labor in woolen and worsted goods manufacturing, 1918.
- United States. Bureau of Mines**
Chart of properties of mine gases. G. A. Burrell.
Coal-mine fatalities in the United States 1917. comp. by A. H. Fay.
General information and rulings for the enforcement of the law regulating the manufacture, distribution, storage, use, or possession of explosives and their ingredients. F. S. Peabody. (Public No. 68, 65th Congress; H.R. 3932)
War minerals investigation series.
2. Potash situation. A. W. Stockett.
- United States. Department of Agriculture.**
Circulars.
78. Method of sale of nitrate of soda to farmers by the United States government.
94. Regulations for cotton warehouses.
Farmers' bulletins.
475. Ice houses. L. C. Corbett.
703. Suggestions for parcel post marketing. L: B. Flohr and C. T. More.

List of Pamphlets Indexed—*Continued*

- United States.** Dept. of Agriculture. Farmers' bulletins.—*Continued*
 865. Irrigation of alfalfa. S: Fortier.
 888. Advice to forest planters in the Plains region. S. D. Smith.
 904. Fire prevention and fire fighting on the farm. H. R. Tolley and A. P. Yerkes.
 916. Successful community drying plant in Nebraska. C. W. Pugsley.
 926. Some common disinfectants. M. Dorset.
 930. Marketing butter and cheese by parcel post. L: B. Flohr and R. C. Potts.
 958. Standard broom corn. B. E. Rothgeb.
 963. Tractor experience in Illinois; a study of the farm tractor under corn-belt conditions. A. P. Yerkes and L. M. Church.
 973. Soy bean: its culture and uses. W. J. Morse.
 974. Clearing land. E. D. Strait.
 984. Farm and home drying of fruits and vegetables. J. S. Caldwell.
 992. Use of machinery in cutting corn. H. R. Tolley.
- Reports.**
 115. Distribution of softwood lumber in the Middle West; wholesale distribution. O. M. Butler.
 116. Distribution of softwood lumber in the Middle West; retail distribution. O. M. Butler.
- United States.** Federal trade commission. Cost reports of the Federal trade commission: coal; Pennsylvania—bituminous. Report of the Federal trade commission on leather and shoe industries.
- United States.** Federal trade commission. Food investigation. Report on flour milling and jobbing.
- United States.** Fuel administration. Bureau of Conservation, Engineering Bulletin.
 1. Boiler and furnace testing. R. T. Strohm.
- United States.** Geological Survey. Bulletin.
 666-O. Our mineral supplies; bauxite and aluminum. J. M. Hill.
- United States.** National advisory committee for aeronautics, Washington, D.C.
 2d annual report, 1916.
 3d annual report, 1917.
- United States.** National museum, Washington, D.C. Bulletins.
 102. v.1. Energy resources of the United States; a field for reconstruction.
 102, pt.7. Natural gas; its production, service, and conservation. S: S. Wyer.
- United States.** Shipping board, Division of planning and statistics, Washington, D.C. Stowage factors for ship cargoes.
- United States.** Tariff Commission. Report.
 Dyes and other coal-tar chemicals. Tariff information series.
 4. Button industry.
 5. Glass industry as affected by the war.
 11. Census of dyes and coal-tar chemicals, 1918.
- United States.** War industries board, Washington, D.C. Price bulletin.
 2. International price comparisons. W. C. Mitchell, M. L. Goldsmith and F. K. Middaugh.
- University of California.** Publications in engineering.
 v. 2, no. 2. Some tests of Douglas fir after long use. A. C. Alvarez. (70c)
 v. 2, no. 3. Some compression tests of Portland cement mortars and concrete containing various percentages of silt. A. C. Alvarez and J. R. Shields. (25c)
- University of Minnesota.** Bulletin.
 5. Manganiferous iron ores of the Cuyuna district, Minnesota. E. Newton.
- University of Missouri.** Bulletin.
 Law series 16. Equitable servitudes in Missouri. G: L. Clark.
- University of Texas.** Bulletin.
 1733. Water supply and sanitation.
 1735. Roads and pavements.
 1752. Boiler waters: their chemical composition, use and treatment. W. T. Read; E. P. Schoch.
 1755. Report on the Colorado coal field of Texas. N. F. Drake.
 1758. Geological conditions near Bridgeport and Chico, Wise county, Texas, with special reference to the occurrence of oil. E. Böse.
 1801. Notes on publications by the faculty, 1915-1917.
 1827. Texas mathematic teachers' bulletin.
 1916:no 39. Planning of simple homes. M. H. Ellis and R. Everett.
- Washington state college,** Pullman. Library bulletin.
 Home economics series.
 3. Economics of textiles and clothing. (25c)

Industrial Arts Index

A Cumulative Index to Engineering and Trade Periodicals

January, 1918—December, 1919

Abbeys

Spanish abbeys. G. G. King. il Am Inst Arch J 7:399-405 S '19

Abbreviations

Helpful suggestions for technical writers. J Elec 43:205 S 1 '19

Aberdeen, Scotland

Rapid transit

Zone fare in practice. W. Jackson. il map Elec Ry J 53:814-22 Ap 26 '19

Ability tests

Applying army methods of selecting men for industry. P. N. Golden. diags Am Mach 51:409-11 Ag 28 '19

Army personnel work—a war gift to industry. il Factory 22:686-7 Ap '19

Army trade skill tests applicable in construction. W. D. Scott. Eng N 82:554-5 Mr 20 '19

Certain illogical tests of intelligence. H. P. Gillette. Eng & Contr 51:351-2 Ap 9 '19

Engineer officers rank first in army mental tests. Eng N 82:814 Ap 24 '19

How high do you stand in the rating scale? B. Barton. Eng & Contr 51:358-61 Ap 9 '19

Intelligence tests in industry. J. P. Lamb. Ind Management 58:21-3 Jl '19

Mental tests for typists and stenographers. M. P. Jaques. Ind Management 58:145-7 Ag '19

Mental tests in industry. R. M. Yerkes. diags Am Inst Min E Bul 146:405-19 F '19; Discussion. 148:680-1 Ap '19

Right man in the right place in the army. J. J. Swan. Mech Eng 41:423-8 My '19

Round pegs and square holes. Sci Am 120:92 F 1 '19

Selecting and training interviewers. R. W. Kelly. Ind Management 57:263-70 Ap '19

Simple tests for office applicants. G. W. Greenwood. Ind Management 57:377-8 My '19

Tests of men. diag Chem & Met Eng 21: 185-6 Ag 15 '19

Vocabulary test of intelligence. L. M. Terman. Eng & Contr 51:361-2 Ap 9 '19

Abrasion meter

Abrasion-meter. R. F. Yates. il Sci Am S 87: 372-3 Je 14 '19

Abrasive wheels. See Emery wheels; Grinding wheels

Abrasives

Abrasive industry growing. Iron Age 102:849 O 3 '18

Carborundum co.'s new aluminous abrasive. Mach 26:189-90 O '19

Increased production of artificial abrasives. F. J. Katz. Chem & Met Eng 19:673 N 1 '18; Same. Iron Tr R 63:1182 N 21 '18; Same abr. Automotive Ind 39:674 O 17 '18; Same abr. J Fr Inst 186:647-8 N '18

Reserve source of raw materials for artificial abrasives. C. Eldredge. Am Mach 49:804 O 31 '18

See also Alundum; Carborundum; Emery wheels; Garnets; Grinding and polishing

Absenteeism. See Employment management

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- War board presents first annual report. Elec Ry J 52:781-8 N 2 '18
- War board raises jitney question again. Elec Ry J 52:620 O 5 '18
- War board sessions. Elec Ry J 51:526, 715, 980 Mr 16, Ap 13, My 18 '18
- What the war board in doing for the industry. P. H. Gadsden. Elec Ry J 52:831-3 N 9 '18
- Work. Ry R 63:29-31 JI 6 '18
- American electric railway claims association**
- Convention, Atlantic City, Oct. 6-9. Elec Ry J 54:718-25 O 11 '19
- American electric railway engineering association**
- Convention, Atlantic City, Oct. 6-9. Elec Ry J 54:sup69-82 O 11 '19
- Engineering association committee appointments. Elec Ry J 53:609-10 Mr 22 '19
- American electric railway manufacturers' association**
- Manufacturers association votes to disband. Elec Ry J 54:sup86-7 O 11 '19
- American electric railway transportation & traffic association**
- 10th annual convention, Atlantic City, Oct. 6. Elec Ry J 54:sup53-68 O 11 '19
- American electrical society**
- Old-time national electrical society with headquarters in Chicago. W. E. Keily. Elec R 72:426-7 Mr 9 '18
- American electrochemical society**
- Electrochemical industry essential to winning the war. C. G. Schluenderberg. Met & Chem Eng 18:437 My 1 '18
- Fall meeting, Atlantic City, Sept. 30-Oct. 2. Chem & Met Eng 19:609-15 O 15 '18; Iron Age 102:896-7 O 10 '18
- Southern convention. Met & Chem Eng 18:500-12 My 15 '18
- 34th general meeting, Atlantic City, N. J., Sept. 30-Oct. 2, 1918. J. W. Richards. J Ind & Eng Chem 10:944-5 N '18
- 35th general meeting, New York city, April 3-5. Iron Age 103:945-6 Ap 10 '19; Chem & Met Eng 20:379-89 Ap 15 '19
- 35th general meeting, New York city, April 3-5. J. W. Richards. J Ind & Eng Chem 11:483-4 My '19
- 36th general meeting, Chicago, Sept. 23-26. Elec R 75:524 S 27 '19; Eng & Min J 108:557 S 27 '19
- American electroplaters' society**
- Closer relations between employer and employee in the work of the American electroplaters' society. W. C. Gold. Metal Ind 17:313-15 JI '19
- Convention; a description of the metal plating and finishing shops of Philadelphia. G: Goodfellow. Metal Ind 17:257-65 Je '19
- 5th annual convention, St Louis, July 5-7. R. M. Edmonds. Metal Ind 15:285-9 JI '17
- 6th annual meeting, Detroit, Mich., July 1-3, 1918. Metal Ind 16:301-7, 379 JI-Ag '18
- 7th annual convention, Philadelphia, July 1-3. L. J. Krom. Metal Ind 17:307-10 JI '19

American engineering standards committee

Engineering and industrial standardization. C. A. Adams. Power 49:337 Mr 4 '19
 Engineering standards committee proposes new constitution. Eng N 83:575-6 S 18 '19
 Establishing American engineering standards. J Elec 43:164-5 Ag 15 '19; Same cond. Sci Am 121:157- Ag 16 '19
 New association plan. Elec W 73:857 Ap 26 '19
 Organization. Eng & Min J 107:1091-2 Je 21 '19
 Organization and procedure of A.E.S. committee explained. Elec Ry J 53:407 Mr 1 '19
 Proposed constitution for standards committee. Eng N 81:76 J1 11 '18
 Proposed reorganization; constitution. Mech Eng 41:638-9 J1 '19
 Reorganization of the Engineering standards committee. E. B. Rosa. Eng N 82:861-2, 916-18 My 1-8 '19; Excerpts. Elec Ry J 53: 859-60 My 3 '19
 Revision of constitution of organization now proposed to carry on the large work of the committee originally suggested. C. B. Le Page. Elec W 73:1233 Je 7 '19
 Statement issued by the association outlining the scope of its proposed activities and stating its reasons why such an association is necessary. Power 49:930-1 Je 17 '19; Same. Elec R 74:1001-2 Je 14 '19; Same cond. Elec Ry J 53:1100 Je 7 '19; Excerpts. Elec W 73:1233 Je 7 '19; Excerpts. Eng N 82:1154 Je 12 '19; Excerpts. Iron Age 103: 1585 Je 12 '19; Excerpts. Mach 25:1072 J1 '19

American foundrymen's association

Convention, Philadelphia, Sept. 29-Oct. 3. G. B. Goodfellow. Metal Ind 17:405-12 S '19
 Foundrymen's convention. R. T. Elmes. il plans Metal Ind 15:373-7, 417-28 S-O '17
 Quaker city, American foundrymen's association's cradle. Iron Tr R 65:sup100-5 S 25 '19
 23d annual convention, Milwaukee, Oct. 7-11. Iron Age 102:955-65 O 17 '18; Iron Tr R 63: 907-12 O 17 '18; Metal Ind 16:445-58 O '18; Foundry 46:501-11 N '18
 24th annual convention, Philadelphia, Sept. 29-Oct. 3. Foundry 47:619-40, 717-25 S 15, O 15 '19; Iron Age 104:712, 833-48, 1074-7 S 11, 25, N 27 '19; Iron Tr R 65:821-4, 888, 989-94 S 25-O 9 '19; Metal Ind 17:477-81 N '19
 War service committee. Iron Age 101:339 Ja 31 '18

American fuse manufacturers' association

Fuse-making contractors organize. Am Mach 48:559 Ap 4 '18

American gas association

Association to be organized June 6. Gas Age 41:423-4, 525-6 My 1, Je 1 '18
 Carbonization committee report shows distinct trend of gas industry towards by-product oven. Am Gas Eng J 111:396-402+ O 25 '19
 Consolidation of the technical and commercial societies of the gas industry. Gas Age 41:545-51 Je 15 '18
 1st annual convention, New York city, October 13-18. Am Gas Eng J 111:341-4+ O 18 '19; Gas Age 41:371-82 N 1 '19
 Manufacturers section of A.G.A. W. W. Barnes. chart Gas Age 43:326 Mr 15 '19
 March conference of American gas association demonstrates complete welding of interests of the two former national associations, New York. Am Gas Eng J 110:249-50 Mr 22 '19; Gas Age 43:301-2 Mr 15 '19
 New association launched, June 6. Am Gas Eng J 108:549-50 Je 8 '18
 Policy of the association. G. B. Cortelyou. Gas Age 41:551 Je 15 '18
 Program for 1919. Gas Age 43:29-30 Ja 1 '19
 Report of industrial fuel committee. Am Gas Eng J 110:203-4 Mr 1 '19
 Scope of the advertising section of the American gas association. Am Gas Eng J 111: 377-8 O 18 '19
 Secretary of American gas association should be a man well versed in the theory and practice of gas manufacture and use. Am Gas Eng J 111:54-5 J1 19 '19

American gas institute (now American gas association)

Plans for amalgamation of the American gas institute and the National commercial gas association rapidly approaching completion. Am Gas Eng J 108:235-6, 365-9 Mr 9, Ap 20 '18; Gas Age 41:423-4 My 1 '18

American gear manufacturers' association

Aims of the association. F. W. Sinram. Am Mach 50:885-6 My 8 '19
 Annual meeting, Cleveland, April 14-16. Iron Age 103:1083-5 Ap 24 '19; Am Mach 50:872 My 1 '19; Mach 25:810-11 My '19
 Gear makers adopt standard contract and set design standards for composition and bevel gears. Automotive Ind 41:830-1+ O 23 '19
 Gear makers hold successful meeting. P. M. Heldt. Automotive Ind 40:334-5 Ap 17 '19
 2d annual meeting, White Sulphur Springs, W. Va., April 18-20. Iron Age 101:1080-3 Ap 25 '18; Elec R 72:761 My 4 '18
 Semi-annual meeting, Syracuse, N.Y., Sept. 19-21. Iron Age 102:750-2 S 26 '18; Iron Tr R 63:730-1 S 26 '18; Automotive Ind 39:527-9 S 26 '18; Elec R 73:543 O 5 '18; Mach 25: 161-2 O '18

American hardwood manufacturers' association

Adoption of the principles to be embodied in the inspection rules to be drawn up and applied by the association. Am Lumberman 2277:53 Ja 4 '19
 1st annual convention. Am Lumberman 2275: 36-42 D 21 '18
 Hardwood associations to unite as one. Am Lumberman 2267:35+ O 26 '18
 Hardwood interests form new organization. Am Lumberman 2228:40-2 Ja 26 '18; Iron Tr R 62:173 Ja 10 '18
 New hardwood inspection rules drafted. Am Lumberman 2280:57 Ja 25 '19
 Semiannual meeting, Memphis, Tenn., May 25. Am Lumberman 2246:54-6 Je 1 '18

American hide & leather company

Report for the fiscal year ended June 30, 1918. Ry Age 65:899-900 N 15 sec 2 '18

American institute of accountants

Annual meeting. J Account 26:296-9 O '18
 Annual meeting, Cincinnati, Ohio, September 16-17. J Account 28:290-6 O '19
 Board of examiners; November, 1917, examination questions. J Account 24:413-23 D '17; Answers. S. Walton and H. A. Finney. 25: 64-78, 140-8 Ja-F '18
 Board of examiners; May, 1918, examinations. J Account 25:401-12 Je '18; Answers. S. Walton and H. A. Finney. 26:143-56, 222-33 Ag-S '18

American institute of architects

Address of president. J. L. Mauran. Am Arch 113:555-8 My 8 '18
 Democratizing the institute. Am Arch 115: 515-16 Ap 9 '19
 Federating the building industry. T. R. Kimball. Am Arch 113:719 My 29 '18
 Fellows and fellowships. Am Inst Arch J 7: 51-9 F '19
 51st annual convention, Philadelphia, April 24-26. Am Inst Arch J 6:190-8 Ap '18; Am Arch 113:551-64 My 8 '18
 52nd annual convention, Nashville, Tenn., April 30-May 2. Am Arch 115:633-41, 647, 655-70 My 7-14 '19; Am Inst Arch J 7:192-8 My '19; Arch Forum 30:123-6 My '19
 Illinois chapter A. I. A. elects new officers; Geo. W. Maher succeeds D. H. Burnham as president. Am Arch 114:403-4 O 2 '18
 National organization. Am Arch 112:431-2 D 12 '17; Discussion. 113:42-3, 89-91, 119-20, 155-8, 471-6, 717-18 Ja 9, 23-F 6, Ap 17, My 29 '18
 National organization of architects; a defense. R. C. Sturgis. Am Arch 113:349-51 Mr 20 '18
 Record of the Institute's war service. J. L. Mauran. Am Inst Arch J 5:641-3 D '17

Post-war committee

Inter-professional conference. Am Inst Arch J 7:193-4 N '19

Post-war committee on architectural practice. Am Inst Arch J 7:153-8 Ap '19

American institute of architects—Post-war committee—Continued

Post-war committee—some opinions. Am Inst Arch J 7:453-8 O '19
 Preliminary conclusions. C: H. Whitaker. Am Inst Arch J 7:390-5 S '19
 Review of the Post-war committee's activities at the Nashville convention. R. D. Kohn. Am Arch 115:735-8 My 28 '19

American institute of chemical engineers

10th annual meeting, St Louis, Dec. 5-8. Met & Chem Eng 17:684 D 15 '17; J Ind & Eng Chem 10:77-9 Ja '18
 10th semi-annual meeting, Gorham, N. H., June 19-22. il Chem & Met Eng 19:4-8 Jl 1 '18; J Ind & Eng Chem 10:651-3 Ag '18
 11th annual meeting, Chicago, Jan. 15-18. Chem & Met Eng 20:115-18 F 1 '19; J Ind & Eng Chem 11:162-4 F '19
 11th semi-annual meeting, Boston and Cambridge, June 18-21. Chem & Met Eng 21:5-15 Jl 1 '19; J Ind & Eng Chem 11:789-91 Ag '19

American institute of electrical engineers

A. E. F. section. Elec R 73:252 Ag 17 '18
 A. I. E. E. development committee report. G: T. Southgate. Elec W 74:703 S 27 '19
 Annual reports of technical committees. Am Inst E E Pro 38:901-5 Jl '19
 Appointments to the A. I. E. E. committees. Elec W 71:373 Ag 16 '19
 Closing sessions of A. I. E. E. convention embrace many subjects. Elec R 75:67-9 Jl 12 '19
 Comments on proposed A. I. E. E. changes. Elec W 74:298-300, 354-7 Ag 9-16 '19
 Committee reports presented June, 1918. Am Inst E E Pro 37:935-76 Ag '18
 Committees for the year beginning August 1, 1918. Elec R 73:328 Ag 31 '18
 Enhancing the prestige of the Institute. C: P. Steinmetz. Elec W 74:243-6 Ag 2 '19
 How A. I. E. E. changes may lessen scientists' support. J. B. Whitehead. Elec W 74:577-8 S 13 '19
 How can A. I. E. E. increase its revenue? Elec W 74:522-3 S 6 '19
 Joint meeting with the Association of iron and steel electrical engineers, Cleveland, O., March 8. Elec R 72:457-8 Mr 16 '18; Elec W 71:580-1 Mr 16 '18
 Midwinter convention, New York, Feb. 19-21. Elec R 74:350-3 Mr 1 '19; Elec W 73:421-4 Mr 1 '19; Power 49:338-9 Mr 4 '19
 Proposed changes in A. I. E. E. activities. Elec W 74:241-2 Ag 2 '19; Same abr. Power 50:276-7 Ag 12 '19
 Proposed changes in A. I. E. E. activities; issuing of engineering periodical instead of proceedings. Elec W 74:18-19 Jl 5 '19
 Report of committee on development, A. I. E. E. Elec W 74:374-6 Ag 16 '19; Same abr. Am Inst E E Pro 38:337-46 S '19 [sec 1]; Same cond. Elec R 75:322-4 Ag 23 '19; Excerpts. J Elec 43:231-2 S 1 '19
 Report of the board of directors for fiscal year ending April 30, 1918. Am Inst E E Pro 37:717-38 Je '18
 Shall Institute practices be amended? Elec W 74:466-7 Ag 30 '19
 6th annual midwinter convention, New York, Feb. 15-16. Elec R 72:342-3 F 23 '18; Elec Ry 51:373 F 23 '18; Elec W 71:424-5 F 23 '18; Power 47:312 F 26 '18
 34th annual business meeting, New York city, May 17. Elec R 72:873 My 25 '18; Am Inst E E Pro 37:sup186 Je '18
 34th annual convention; abstracts of papers. il diags Elec R 72:1080-3 Je 29 '18; Elec Ry J 51:1229-31 Je 29 '18
 34th annual convention, Atlantic City, N. J., June 26-28. Elec R 72:1086-9; 73:14-17 Je 29-31 Je 6 '18; Elec W 71:1374-5; 72:28-31 Je 29-Jl 6 '18; Power 48:66-8 Jl 9 '18; Munic J 45:61+ Jl 20 '18; Am Inst E E Pro 37:sup239-44 Ag '18
 35th annual convention, Lake Placid, New York, June 24-27. Elec R 75:7-12 Jl 5 '19; Elec W 73:1383-90; 74:16-17 Je 28-Jl 5 '19; Power 50:39-40 Jl 1 '19
 335th meeting, New York, Dec. 14; with abstracts of papers. Elec W 70:1208 D 22 '17

342nd meeting, Philadelphia, Dec. 13. Elec R 73:972-4 D 21 '18
 348th meeting, Boston, March 14. Elec W 73:592-5 Mr 22 '19
 What are the important functions of the A. I. E. E.? W: Arthur. Elec W 74:410-11 Ag 23 '19

American institute of metals

Foundrymen's convention. R. T. Elmes. il plans Metal Ind 15:373-7, 417-28 S-O '17
 Sessions of the Institute of metals. Iron Age 103:566-7 F 27 '19
 To join the American institute of mining engineers. Metal Ind 16:223-4 My '18; Abstract. Iron Tr R 62:1052 Ap 25 '18

American institute of mining and metallurgical engineers (formerly American institute of mining engineers)

Address of president to local sections. S. J. Jennings. Am Inst Min E Bul 137:sup8-13 My '18
 American institute of metals to join the American institute of mining engineers. Metal Ind 16:223-4 My '18; Abstract. Iron Tr R 62:1052 Ap 25 '18
 A. I. M. E. in Colorado. Eng & Min J 106:377 Ag 31 '18
 Annual meeting of the Institute of metals division, Philadelphia, Sept. 29-Oct. 3. Foundry 47:619-24, 744-5 S 15, O 15 '19; Iron Tr R 65:821-4 S 25 '19; Chem & Met Eng 21:550-6 O 29 '19
 Board of directors, A. I. M. E.; portraits. Eng & Min J 108:469-71 S 13 '19
 Board of directors; portraits. Eng & Min J 106:378-80 Ag 31 '18
 Coal has leading place in session of A. I. M. E. R. D. Hall. Coal Age 16:606-10 O 9 '19
 Consider industrial relations; remarks on meeting of A. I. M. E. R. D. Hall. Coal Age 13:413-14, 458-9, 499-500, 544-5 Mr 2-23 '18
 Institute and the war. B. Stoughton. il Eng & Min J 106:375-7 Ag 31 '18
 Meeting of the San Francisco section, July 22. Eng & Min J 108:193 Ag 2 '19
 Milwaukee meeting, Oct. 7-12. J. W. Richards. J Ind & Eng Chem 10:945-6 N '18
 Officers of mining engineering societies. Eng & Min J 107:486-8 Mr 15 '19
 116th annual meeting, New York, Feb. 18-21. Iron Age 101:554-9 F 23 '18; Iron Tr R 62:549-52 F 28 '18; Eng & Min J 105:391-2, 426-9 F 23-Mr 2 '18; Met & Chem Eng 18:227-31 Mr 1 '18
 117th meeting. Denver and Colorado Springs, Sept. 2-5. Chem & Met Eng 19:278-86 S 15 '18; Eng & Min J 106:501 S 14 '18; Am Soc M E J 40:858 O '18
 118th meeting of the institute of metals division, Milwaukee, Oct. 8. Foundry 46:530-1 N '18
 119th annual meeting, New York, Feb. 17-20. Chem & Met Eng 20:208-15 Mr 1 '19; Eng & Min J 107:373-4, 414-15 F 22-Mr 1 '19; Iron Age 103:563-6 F 27 '19; Iron Tr R 64:578-9 F 27 '19; Metal Ind 17:111-12 Mr '19
 120th meeting, Chicago, Sept. 22-26. Eng & Min J 108:328-9, 364-6, 555 Ag 23-30, S 27 '19; Chem & Met Eng 21:458-61 O 8 '19; Iron Tr R 65:900-1 O 2 '19; Iron Age 104:1058-61 N 27 '19; Metal Ind 17:477-81 N '19
 Reports for the year 1917. Am Inst Min E Bul 131:sup9-24 F '18
 Session on milling and industrial organization, Chicago, September 22. Eng & Min J 108:588 O 4 '19
 Some facts and figures about the A. I. M. E. il Eng & Min J 108:433-9 S 13 '19
 23d annual convention, Milwaukee, Oct. 7-11. Iron Age 102:955-65 O 17 '18; Metal Ind 16:445-58 O '18; Foundry 46:501-11 N '18

American iron and steel institute

New committee for scrap. Iron Age 101:360 Ja 31 '18
 New members. Iron Age 101:1532 Je 13 '18
 16th general meeting, New York city, Oct. 24. Iron Tr R 65:1194-6 O 36 '19
 Stricter control over ferro alloys; Institute to act as clearing agent. Iron Tr R 62:439-40 F 14 '18
 War writes steel's brightest page. E. C. Kreutzberg. Iron Tr R 64:42-51 Ja 2 '19

American iron, steel and heavy hardware association

Annual convention, Atlantic City, N.J. Iron Age 101:1394-6 My 30 '18

American locomotive company

Annual report for fiscal year ended June 30, 1918. Ry Age 65:897 N 15 sec 2 '18

American lumber congress

American lumber congress considers the industry's problems. Am Lumberman 2292: 56-64 Ap 19 '19

Proceedings. Am Lumberman 2292:1, 47-67 Ap 19 '19

American machinist (periodical)

Anent our fortieth birthday. W. D. Forbes. Am Mach 48:20-1 Ja 3 '18

Value of the American machinist as a college textbook. J. A. De Turk. Am Mach 48:531-2 Mr 28 '18

American manufacturers export association

Exporters in drive for world trade. Iron Tr R 63:1078-9 N 7 '18

10th annual convention, New York, Oct. 16-17. Ry Age 67:701-2 O 3 '19

American metric association

2d meeting, Pittsburgh, Pa., Dec. 28-29, 1917. J Ind & Eng Chem 10:154 F '18

American mining congress

American mining congress. B. Wells. Eng & Min J 107:489-90 Mr 15 '19

American oak manufacturers' association. See American hardwood manufacturers' association**American paper and pulp association**

Paper associations joint convention, New York, Feb. 3-6. Chem & Met Eng 20:184-5 F 15 '19

American petroleum institute

Natural gas and petroleum wartime activities. C. C. Smith. Gas Age 41:90-2 Ag 1 '19

American photoengravers' association

23d annual convention, Buffalo, June 19-21. S. H. Horgan. Inland Ptr 63:415-16 Jl '19

American pig iron association

Annual meeting, Pittsburgh, Feb. 7. Iron Age 101:472 F 14 '18

American railroad association

Atlantic City conventions. Ry Mech Eng 93: 185-7 Ap '19

Developments in American railroad association. Ry Age 66:541-2 Mr 7 '19

New section of American railroad association; superseding the American storekeepers' association. Ry Mech Eng 93:296 Je '19

Personnel of general committees. Ry R 64: 400 Mr 15 '19

Reorganization of the American railway association taking in several auxiliary associations. Ry Age 66:194-6 Ja 17 '19; Same. Ry R 64:86-9 Ja 18 '19

Mechanical section

1st annual meeting, Atlantic City, June 18-25. Elec Ry J 53:1213-16, 1268-70 Je 21-28 '19; Ry R 64:922-5+, 977-85, 994-1000 Je 21-28 '19

Mechanical section of American railroad association; rules of order. Ry Age 66:535-7 Mr 7 '19; Ry R 64:345-6 Mr 8 '19

Signal division

(formerly Railway signal association)

1st annual meeting, Chicago, Sept. 17-19. Ry Age 67:613-16 S 26 '19; Ry R 65:429-30, 450 S 20-27 '19

Meeting, Atlantic City, June 26-27. Ry Age 67:31-4 Jl 4 '19

Spring meeting of signal division, Chicago, March 17. Ry R 64:433-4 Mr 22 '19

Telegraph and telephone division

Convention of the telegraph superintendents consider mailgram service, wire crossings and pole line construction. Ry Age 66:1542-4 Je 20 '19

American railway accounting officers, Association of. See Association of American railway accounting officers**American railway association. See American railroad association****American railway bridge and building association**

28th annual convention, Chicago, Oct. 15-17. Ry Age 65:705-13 O 18 '18; Ry R 63:559-61 O 19 '18

29th annual convention, Cleveland, Oct. 21-23. Ry R 65:609-10 O 25 '19

American railway commission

American railway commission in Russia. J. E. Greiner. Ry R 63:170-2 Ag 3 '18; Same cond. Eng & Contr 50:56-8 Jl 17 '18

American railway engineering association

Brief summarization of reports submitted to 19th annual convention. Eng N 80:547-50 Mr 21 '18; Elec Ry J 51:565-7, 618 Mr 23-30 '18

Committee work. Ry Age 66:949 Ap 11 '19

19th annual convention, Chicago, March 19-21. Ry R 62:417-25 Mr 23 '18; Eng N 80:632 Mr 28 '18

President's address. C. A. Morse. Ry R 64: 440-3 Mr 22 '19

President's address. J. G. Sullivan. Ry R 62: 437-9 Mr 23 '18

Recommendations of fourteen committees adopted. Eng N 80:606 Mr 28 '18

20th annual convention, Chicago, March 18-20. Elec Ry J 53:649-51 Mr 29 '19; Eng N 82: 606-9 Mr 27 '19; Ry R 64:435-40, 446-8 Mr 22 '19; Iron Age 103:819 Mr 27 '19

American railway express company

Express company taken over and rates raised. Ry Age 65:924-5 N 22 '18

Four express companies to be consolidated. Ry Age 64:1377-82 Je 7 '18

Outline of government's scheme of organization for handling express business during the war. E. A. Stedman. Ry R 63:531-3 O 12 '18

American railway master mechanics' association (now American railroad association—Mechanical section)

Joint meeting with the Master car builders' association, Chicago, June 19-20. Ry Age 64:1514-32 Je 21 '18; Ry R 62:938-51 Je 29 '18

Past and future of the mechanical associations. W. Schlafge. Ry R 62:904-6 Je 22 '18; Same cond. Ry Age 64:1515-16 Je 21 '18

American railway tool foremen's association

9th convention, Chicago, Aug. 27-29. Ry R 65:315-16 Ag 30 '19; Ry Age 67:471-2 S 5 '19; Ry Mech Eng 93:613-16 O '19

American red cross. See Red cross**American relief administration. See United States—American relief administration****American road builders' association**

15th annual convention, St Louis, Feb. 4-7. Good Roads n s 15:75-8+ F 9 '18; Munic J 44:129-30 F 16 '18

History, aims and officers of the national organization. Good Roads n s 17:79-83 F 22 '19

History of the association and the St Louis convention program. Good Roads n s 15:65-9 F 2 '18

Proposed changes in constitution. Good Roads n s 16:36 Jl 27 '18

16th annual convention, New York city, Feb. 25-28. Good Roads n s 17:95-7, 105-8 Mr 1-8 '19; Munic J 46:197-200 Mr 8 '19

American short line railroad association

Convention, Washington, D. C., June 3-5. Ry Age 66:1377-80 Je 6 '19; Elec Ry J 53:1172 Je 14 '19

American smelting and refining company

Report for the fiscal year ended Dec. 31, 1917. Eng & Min J 105:682 Ap 13 '18

American society for municipal improvements

Reports at the 24th annual convention. Good Roads n s 16:140-2+ O 12 '18

24th convention, Buffalo, N.Y., Oct. 2-5. Munic J 45:277-80 O 12 '18

American society for testing materials

21st annual meeting, Atlantic City, June 25-28, Iron Age 102:14-18 JI 4 '18; Eng N 81:56 JI 4 '18; Iron Tr R 63:33 JI 4 '18; Ry Age 65:27-30 JI 5 '18; Power 48:68-9 JI 9 '18; Munic J 45:61 JI 20 '18

22d annual meeting, Atlantic City, N. J., June 24-27, Am Arch 116:53-6 JI 9 '19; Elec Ry J 54:24-5 JI 5 '19; Eng N 83:9-14 JI 3 '19; Foundry 47:460-1 JI 15 '19; Iron Age 103:1748-a Je 26 '19; Ry Age 67:16-20 JI 4 '19; Arch Forum 31:52-3 Ag '19

American society of agricultural engineers

11th annual meeting, Chicago, Dec. 27-29, 1917, Eng N 80:52 Ja 3 '18

American society of civil engineers

Annual meeting, Jan. 15, Eng N 82:160-1 Ja 16 '19

Committee on development, Eng N 80:1209-10; 81:239-41 Je 27, Ag 1 '18; Resolutions, Am Soc M E J 40:712 Ag '18; Eng & Contr 50:49-50 JI 17 '18

Committee on development, Ry R 64:14-16 Ja 4 '19

Committee on development: its purpose and field, A. N. Talbot, Eng & Contr 50:381-2 O 23 '18

Development committee of American society appointed, Eng N 81:658-60, 688-9 O 10 '18

Low working stress for spare-end steel columns is recommended by column committee; abstracts, Eng N 80:250-3 F 7 '18; Eng & Contr 49:223-5 F 27 '18

Problems before American society of civil engineers, C. T. Johnston, Eng N 82:154-5 Ja 16 '19

Problems before the Civil engineers' society, G. S. Williams, Eng N 81:1018-19 D 5 '18

Prominent engineers approve development-committee plan, Eng N 81:134-6 JI 18 '18

Revised constitution voted down, Eng N 80:532 Mr 14 '18

2d progress report of Development committee, Eng N 82:1229-30 Je 19 '19; Same, Eng & Contr 52:82-3 JI 16 '19; Same, Ry R 65:108-10 JI 19 '19

Shall the American society defeat the revised constitution? Eng N 80:325, 375-7, 424-5, 527 F 14-28, Mr 14 '18

65th annual meeting, Jan. 16, Eng N 80:139-40 Ja 17 '18

Society welcomed to its new home in the Engineering societies' building, New York, Eng N 79:1144-7 D 20 '17; Am Inst E E Pro 37:sup4-5 Ja '18; Am Soc M E J 40:78-9 Ja '18

Society's war activities and journalistic criticism, C. W. Hunt, Eng N 79:1091-2 D 13 '17

American society of heating and ventilating engineers

Cooperation between the National district heating association and the American society of heating and ventilating engineers, D. L. Gaskill, Am Soc Heat & V E 23:585-90; Discussion, 591-4 '17

Engineers face to face with a new era in association work; meeting of New York chapter, Heat & Ven 16:40-2 N '19

Engineers' fuel saving suggestions at a meeting of New York chapter, P. West; W. M. Mackay, Metal Work 89:290-2 Mr 1 '18

Proceedings and papers of the semi-annual meeting, July 18-20, 1917, Am Soc Heat & V E 23:317-678 '17

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- Association of railway claim agents**
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Draughting room practice. *See* Drafting room practice

Draughtsmen. *See* Draftsmen

Draw bench. *See* Metal working machinery

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Drawing, Architectural. *See* Architectural drawing

Drawing, Geometrical. *See* Geometrical drawing

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Drayer, C. E.

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- War psycho-neurosis; the psychology of soldiers' dreams. F. W. Mott. *Sci Am* S 85:162-3, 185 Mr 16-23 '18

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- Yuba no. 17 all-steel dredge. L. H. Eddy. *il Eng & Min J* 106:299-301 Ag 17 '18

See also Excavating machinery

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Dress. *See* Clothing

Dress fabric buyers, Jobbers' association of. *See* Jobbers' association of dress fabric buyers

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- Dress goods year 1918 disappointing. *Textile World* 55:388-9 Ja 11 '19
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Dried fruit. *See* Fruit, Dried

Drifters. See Fishing boats

Drifts (tool)

Making and using drifts. H. F. Pusep. diags
Am Mach 51:757-60 O 23 '19

Drill jigs. See Jigs

Drilling and boring (earth and rocks)

Application of air drills to mine sampling.
J. H. Eggers. Eng & Min J 108:358-60 Ag
30 '19

Diamond-drill troubles. M. C. Milton. diag
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J. A. Carpenter. il Eng & Min J 108:240-1
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V. P. Row. diags Am Inst Min Bul 153:1597-
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O 15 '19; Discussion. Am Inst Min Bul 155:
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See also Artesian wells; Rock drills; Shaft
sinking; Wells

Drilling and boring (metal working, etc.)

Bar for boring a chamber. O. E. Charles.
diags Am Mach 49:256 Ag 8 '18

Bending and drilling tubes, angles and flat
sections. F. A. Stanley. il diags plan Am
Mach 48:697-701 Ap 25 '18

Boring a 4-ft. hole in an 18-ft. ship casting.
H. G. McLean. il diags Am Mach 48:211 Ja
31 '18

Boring a hole around a corner. G. A. Mac-
Gregor. diags Am Mach 48:328 F 21 '18

Boring and reaming ball bearing housings on
a turret lathe. P. S. Thomas. diags Mach
25:66 S '18

Boring and reaming on the drill press. V. T.
Kropidowski. diags Ry R 62:276-7 F 23 '18
Boring attachment for lathe. C. W. Wilkinson.
il diags Mach 24:739 Ap '18

Boring spiders for paper mill cylinders.
R. P. Deane. diags Am Mach 51:304 Ag
14 '19

Boring taper holes. W. B. Bennett. diag Am
Mach 48:391 F 23 '18

Boring with an improvised rig. M. E. Hoag. il
Am Mach 51:583-4 S 18 '19

Centering shell forgings on a drilling ma-
chine. J. Homewood. diag Mach 25:63-4 S
'18

Chamfering tool. R. E. Goss. diags Am Mach
48:675-6 Ap 18 '18

Deep boring operation on a lathe. diag Mach
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Device to drill a hole from the inside of a
boiler or tank. J. A. Lucas. diag Coal Age
14:891 N 14 '18

Drill for square holes. diags Marine R 49:302
Je '19

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1024 Jl '18

Drilling closely spaced holes. il Mach 24:886
Je '18

Drilling deep holes of small diameter. W: S.
Rowell. Mach 26:241 N '19

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24:809 My '18

Drilling holes for hub plate studs. diags Ry
Mech Eng 93:259-60 My '19

Drilling metal by hand power. J. Lewis. diag
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diags Marine R 49:485 O '19

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plan Mach 25:803-5 My '19

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Curry. diags Mach 24:542 F '18

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Ind Management 57:105-7 F '19

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E. K. Hammond. il diags Mach 24:914-21,
1030-4 Je-Jl '18

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Mach 24:630 Mr '18

Machine lap for taper holes. J. G. Rock. diags
Am Mach 48:760 My 2 '18

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Jennings. diags Am Mach 48:249 F 7 '18

Machining tractor wheel hubs on a drilling
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Mach 50:19 Ja 2 '19

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788 O 30 '19

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Am Mach 48:201 Ja 31 '18

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Stiles. il diags Am Mach 50:951-2 My 15
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C. C. Spreen. diags Mach 24:741-2 Ap '18

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- Metamorphosis of the locomotive. H. Holcroft. diags Engineer 128:78-80, 103-4, 126-9, 153-4 J1 25-Ag 15 '19
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- Relative economy of the locomotive of 1900 and today. J. E. Muhlfield. Am Soc M E J 40:pt 2, 655-6 J1 '18; Same. Ry Age 65:305-6 Ag 16 '18; Same. Ry R 63:166-7 Ag 3 '18; Discussion. Ry Age 65:306-7 Ag 16 '18
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- Santa Fe locomotive for the belt railway of Chicago. il Ry R 62:611-12 Ap 27 '18
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- Ten-wheel and Mikado type locomotives for the Paris-Orleans Ry. F. C. Coleman. il Ry R 63:267-8 Ag 24 '18
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- Typical British locomotive. il Sci Am S 85:252 Ap 20 '18
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- Yankee's idea of French engines. il Ry Mech Eng 92:249-50 My '18
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- Forged tires and axles. L. Genze. Iron Age 103:240 Ja 23 '19
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- Cleaning locomotives. diag Ry R 62:514-15 Ap 6 '18
- D. & M. process of cleaning locomotives. il diag Ry R 63:724-5 N 16 '18

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- Reduce dynamic augment for heavy locomotives; abstracts. E. W. Strong. Ry Age 64:415-17 F 22 '18; Ry R 62:341-5 Mr 9 '18; Ry Mech Eng 92:257-60 My '18

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- Crosshead pin on Russian built locomotives. J. Grant. il diag Ry Mech Eng 93:416 J1 '19

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- Administration standard light mountain type. il diags Ry Age 66:1193-6 My 16 '19; Same. Ry Mech Eng 93:431-5 J1 '19
- A. T. & S. F. 4-8-2 type locomotives. il diags Ry Mech Eng 92:649-52 D '18
- C. C. & S. L. 0-8-0 switchers. R. W. Retterer. il diags Ry Mech Eng 93:411-14 J1 '19
- Drafting modern locomotives. H. W. Codding. diags Ry Mech Eng 92:387-92, 439-44 J1-Ag '18
- First of the U.S. standard locomotives completed; light Mikado type. il diags Ry Age 65:131-3 J1 19 '18; Same. Ry Mech Eng 92:436-8 Ag '18
- First standard 0-8-0 type switching locomotive. diags Ry Age 65:542-4 S 20 '18; Same. Ry Mech Eng 92:543-5 O '18
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Heavy Mallet compound for Virginian railway. *il Ry R 63:497-8 O 5 '18*; Same *cond. Ry Age 65:688-91 O 18 '18*

Heavy Mikado type locomotive for A. T. & S. F. Ry. *il diags Ry R 61:751-2 D 22 '17*; Same. *Ry Age 64:209-11 Ja 25 '18*

Heavy standard Mikado locomotive, United States railroad administration. *il diags Ry Mech Eng 92:491-4 S '18*; *Ry Age 65:374-6 Ag 30 '18*; *Ry R 63:331-4 S 7 '18*

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Locomotive design from a maintenance standpoint. W. H. Winterrowd. *Ry Mech Eng 91:678-80 D '17*

London and South-western railway—six coupled passenger locomotive. *il diags supp Engineer 126:383 N 1 '18*

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Mallet compound locomotives for Wheeling & Lake Erie Ry. *il diags Ry R 62:5-6 Ja 5 '18*

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Norfolk & Western 267-ton Mallet locomotive. H. W. Reynolds. *il diags plan Ry Age 65:59-63 Jl 12 '18*; Same. *Ry Mech Eng 92:445-50 Ag '18*

Pacific and Mikado type locomotives, C. B. & Q. R. R. *il diags Ry R 63:1-5 Jl 6 '18*; Same *cond. Ry Age 65:224-5 Ag 2 '18*

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Reduce dynamic augment for heavy locomotives; abstracts. E. W. Strong. *Ry Age 64:415-17 F 22 '18*; *Ry R 62:341-5 Mr 9 '18*; *Ry Mech Eng 92:257-60 My '18*

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Standard 2-8-8-2 type locomotives. *il diags Ry Mech Eng 93:187-90 Ap '19*; Same. *Ry Age 66:575-8 Mr 14 '19*

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Three-cylinder locomotive. A. McBeth. *Engineer 127:56 Ja 17 '19*

Three-cylinder locomotive for Constantino; abstract. *Mech Eng 41:285 Mr '19*

Three-cylinder locomotives. H. Holcroft. *diags Engineer 127:485-9 My 16 '19*

Three-cylinder locomotives. H. S. Vincent. *diags Engineer 127:326-7 Ap 4 '19*

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2-10-2 type locomotives for the U. P. *il diags Ry Mech Eng 92:321-4 Je '18*; Same *cond. Ry Age 64:1572-4 Je 28 '18*

U.S.R.A. standard six-wheel switching locomotive; the first of the smallest government engines to be built. *il chart diags Ry Age 65:654-7 O 11 '18*

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Wabash 2-10-2 type locomotive. *il diags Ry Mech Eng 91:667-70 D '17*; Same. *Ry Age 63:1025-8 D 7 '17*

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Gages for driving box work. J. H. Hahn. *diags Ry Mech Eng 92:164 Mr '18*

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Machining locomotive driving boxes. F. A. Stanley. *il diags Ry Mech Eng 92:573-5 O '18*

Machining locomotive driving boxes. M. H. Williams. *il diags Ry Mech Eng 93:155-9 Mr '19*

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Conservation in use of locomotive supplies. W. J. Tollerton. *Ry Age 64:1316 My 31 '18*

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Engine failures, causes and remedies; abstracts of committee report of Traveling engineers' association. *Ry Age 65:505-6 S 13 '18*; *Ry R 63:429-32 S 21 '18*; *Ry Mech Eng 93:77-8 F '19*

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Design of ash pan and draft appliances. *Ry Age 66:1329-30 My 30 '19*; Same. *Ry Mech Eng 93:440-1 Jl '19*

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 Certain essentials of fuel economy. E. McAuliffe. *Ry Age* 66:1254-5 *My* 23 '19; Same. *Ry R* 64:762-3 *My* 24 '19; Same. *Ry Mech Eng* 93:584 *O* '19
 Circular of fuel conservation section of Railroad administration. *Ry Age* 65:339-40 *Ag* 23 '18
 Co-operative research and the fuel problem. O. S. Beyer, jr. *Ry Mech Eng* 93:443-4 *Jl* '19
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 Fuel economy—abstracts of committee report of Traveling engineers' association. *Ry Age* 65:501-3 *S* 13 '18; *Ry R* 63:402-3 *S* 14 '18
 How can coal be saved on the engine? *Ry Age* 65:136-7 *Jl* 19 '18
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 Locomotive fuel losses at terminals. J. M. Nicholson. *Ry R* 64:752-4 *My* 24 '19; Same *cond. Ry Mech Eng* 93:524-5 *S* '19
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- Milling applications and adaptations. il diags Engineer 127:6-9 Ja 3 '19; Abstract. Mech Eng 41:397-8 Ap '19
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- Unusually large form cutter. il Mach 25:334 D '18
- See also* Slotting machines
- Safety devices**
- Universal guard for milling machine cutters. il Am Mach 50:599-600 Mr 27 '19
- Milling machinery.** *See* Crushing machinery
- Milling machines**
- Back geared milling machine. il Iron Age 103:878 Ap 3 '19; Iron Tr R 64:963 Ap 10 '19
- Beaman & Smith continuous manufacturing milling machines. il Am Mach 50:1013-14 My 22 '19; Iron Age 103:1441 My 29 '19; Mach 25:983 Je '19; Ry Mech Eng 93:351-2 Je '19
- Becker model D-1 vertical milling machine. il diags Am Mach 50:825-7 My 1 '19; Ry Mech Eng 93:346 Je '19
- Becker no. 3 universal milling machine. il Am Mach 48:347 F 21 '18
- Bickett horizontal bench miller. il Ry Mech Eng 92:289-90 My '18
- Biggs-Watterson thread milling machine for shell work. il diags Iron Age 101:1397 My 30 '18; Am Mach 48:981 Je 6 '18
- Cincinnati M-type milling machine. J. H. Van Deventer. il Am Mach 51:749-53 O 23 '19
- Cleveland milling machine with new type of drive. il Iron Age 102:207 Jl 25 '18; Am Mach 49:225-6 Ag 1 '18; Mach 24:1147-8 Ag '18
- Cleveland universal and plain milling machines. il Am Mach 50:759-60 Ap 17 '19; Iron Tr R 64:1020 Ap 17 '19; Ry Mech Eng 93:377-8 Je '19
- Cochrane-Bly millers and shapers. il Mach 25:1187-8 Ag '19; Am Mach 51:289-91 Ag 7 '19
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- Cutting an irregular recess on the milling machine. E. Sheldon. il Am Mach 49:755-6 O 24 '18
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- Doing a large job on a small milling machine. D. A. Hampson. diags Am Mach 49:494 S 12 '18
- Double-spindle milling machine for wrench slot in detonator socket. D. A. Baker. diags Mach 25:193 N '18
- Fleming combination-lathe, boring and milling machine. il Am Mach 48:597 Ap 4 '18
- Garvin no. ix duplex milling machine. il Am Mach 49:593 S 26 '18; Iron Age 102:833 O 3 '18
- Hall planetary thread-milling machine for shell work. il Am Mach 49:734 O 17 '18
- Ingersoll differential type continuous milling machine. J. V. Hunter. il diags Am Mach 51:645-50 O 2 '19; Abstract. Mech Eng 41:899-900 N '19
- Kemp Smith maximiller. il diags Am Mach 49:595-600 O 3 '18
- Kemp Smith maximiller. il Ry Mech Eng 93:161-2 Mr '19
- Langelier duplex shell adapter milling machine. il diags Mach 25:270-1 N '18
- Machine for milling powder pockets in firing-pin plugs. il diags Am Mach 49:42-3 Jl 4 '18
- Making use of a discarded machine. D. A. Hampson. il Am Mach 49:1020 D 5 '18
- Milling machine attachment for facing feed nut abutments. il Mach 24:611 Mr '18
- Milling machine fixture for sawing off tubes. D. A. Baker. diag Mach 25:155 O '18
- Milling-machine vise as a special milling fixture. H. F. Pusep. diags Am Mach 48:1101-3 Je 27 '18
- Milling practice in locomotive shops. E. K. Hammond. il diags Mach 25:1122-5 Ag '19
- Milling pulley faces. J. A. Lucas. diag Am Mach 49:528 S 19 '18
- Milling rack teeth on multiple-spindle milling machine. il diag Mach 26:66 S '19
- Milling tractor cylinders on continuous type machine. il Mach 25:928 Je '19
- Moline back-facing machine for cylinder-base bosses. il Am Mach 49:593-4 S 26 '18; Iron Age 102:693 S 19 '18
- Moline special milling and drilling machine. il Ind Management 55:333-4 Ap '18
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- New Cincinnati no. 5 high power milling machine. J. H. Van Deventer. il diags Am Mach 50:971-6 My 22 '19
- Newton deck-plate-scarf milling machine. il Am Mach 49:318-19 Ag 15 '18; Iron Tr R 63:390 Ag 15 '18; Iron Age 102:439 Ag 22 '18
- Newton duty horizontal milling machine. il Ry Mech Eng 93:374-5 Je '19; Am Mach 51:143-4 Jl 17 '19
- Newton heavy-duty horizontal keyseat milling machine. il Am Mach 50:323-4 F 13 '19
- Newton heavy-duty vertical-spindle milling machine. il Am Mach 51:90-1 Jl 10 '19
- No. 4 Cincinnati vertical high-power milling machine. il diags Am Mach 50:1229-32 Je 26 '19; Mach 25:1088-90 Jl '19
- No. 5 Cincinnati high-power milling machine. il Mach 25:988-90 Je '19
- Ohio tilted rotary milling machine. il Automotive Ind 40:1174-6 My 29 '19; Ind Management 57:508 Je '19; Iron Age 103:1358-9 My 22 '19; Iron Tr R 64:1359-60 My 22 '19; Mach 25:979-82 Je '19; Ry Mech Eng 93:360-2 Je 19; Mech Eng 41:623-4 Jl '19
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- Planer milling practice in automobile plants. E. K. Hammond. il Mach 25:965-71, 1044-9 Je-Jl '19
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- Setting angle for fluting taper reamers. B. E. Keifer. diags Am Mach 49:446 S 5 '18
- Slotting machine converted into rotary milling machine. A. Brown. il Am Mach 49:392 Ag 29 '18
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- Superior oscillating-head milling machine. il diag Mach 25:568 F '19
- Supports for milling machine arbors. L. D. Burlingame. il diags Mach 24:992-6 Jl '18

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Taylor & Fenn high-speed vertical-spindle milling machine. *il Am Mach* 50:1108-9 *Je* 5 '19; *Iron Age* 103:1504 *Je* 5 '19

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Special operations in milling machine manufacture. *F. B. Jacobs. il Iron Tr R* 64:892-6 *Ap* 3 '19

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Milling plants. *See* Metallurgical plants

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Milwaukee, Wisconsin

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Industrial power consecrated to country. *G. H. Manlove. il Iron Tr R* 63:sup100-7 *O* 3 '18

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Rapid transit

Zone fares have been found satisfactory in Milwaukee. *il map Elec Ry J* 54:613-20 *S* 27 '19

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Milwaukee school of engineering. *See* School of engineering of Milwaukee

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Sampling of dust in mine air. *J. Boyd. diags Eng & Min J* 107:395-6 *Mr* 1 '19

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Dallas change house at Bisbee, Ariz. *diag Eng & Min J* 105:20 *Ja* 5 '18

Ideal changehouse. *F. M. Heidelberg. diag plan Eng & Min J* 103:389-90 *Mr* 3 '17

Mine bathhouses in Utah. *A. C. Watts. il diags plan Coal Age* 15:4-8 *Ja* 2 '19

Overhead hanging arrangement for clothes. *il Eng & Min J* 108:243 *Ag* 9 '19

Strong background for community work is formed by bathhouses and laundries. *D. J. Baker. il Coal Age* 16:634-7 *O* 16 '19

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Mine cages. *See* Mine hoisting

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Efficient car retarder. *R. L. Mayer. diag Coal Age* 16:44 *Ja* 10 '19

Readily constructed mine car retarder. *diags Coal Age* 13:816-17 *My* 4 '18

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Advantages of standardization of mine cars. *H. V. Brown. il Coal Age* 15:793 *My* 1 '19

Automatic car-door opener saves lots of time in dumping cars. *R. W. Mayer. diag Coal Age* 16:479 *S* 18 '19

Automatic drop-bottom mine car. *diags Engineer* 124:457 *N* 23 '17

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Cost of upkeep of mine cars. *Coal Age* 14:918, 1174-5; 15:460-1 *N* 14, *D* 26 '18, *Mr* 6 '19

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- Effect of anti-friction bearings on the haulage of a coal mine. P. B. Liebermann. *Am Inst Min E Bul* 127:1051-62 J '17; Discussion. 133:14-15 Ja '18
- Fluid-controlled check rail device. *il diags Coal Age* 16:448 S 11 '19
- Frozen mine-car journals. M. Ashley. *Coal Age* 13:757 Ap 20 '18
- Iron vs. wood mine cars. *Coal Age* 14:793-4, 913, 960, 999-1000, 1045-6, 1174; 15:157, 461-2 O 24, N 14-28, D 5, 26 '18, Ja 16, Mr 6 '19
- Lubricating mine cars. *Coal Age* 15:377, 768 F 20, Ap 24 '19
- Lubrication as an aid in stimulating coal production. R. Trautschold. *Coal Age* 13:1112-13 Je 15 '18
- Maximum production for humanity's sake. H. K. Porter. *il Coal Age* 14:97-8 JI 20 '18
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- Mine-car door. V. C. Robbins. *Coal Age* 13:1031 Je 1 '18; Discussion. 13:1124-5, 1171-2; 14:75, 140-1 Je 15-22, JI 13-20 '18
- Mine cars; using roller-bearing cars and plain-bearing cars together. *Coal Age* 13:346, 514, 557-8, 757, 845 F 16, Mr 16-23, Ap 20, My 4 '18
- New type of mine car. *il Coal Age* 15:809 My 1 '19; Same. *Eng & Min J* 107:1088 Je 21 '19
- Ore car designed at Hecla mine. C. T. Rice. *il diags Eng & Min J* 106:522-5 S 21 '18
- Repairing and oiling mine cars. *Eng & Min J* 105:1173-4 Je 29 '18
- Roller bearings for mine cars. R. W. Harris. *Coal Age* 16:545 S 25 '19
- Safe powder car. H. H. Honaker. *il Coal Age* 16:565 O 2 '19
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- Self-locking pipe and timber binder for slope car. R. W. Mayer. *il Coal Age* 13:1044-5 Je 8 '18
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- Standardization of mine cars in metal mines. R. M. Raymond. *diags Eng & Min J* 107:220-4 F 1 '19
- Steam-shovel ore cars at New Cornelia, Ajo, Ariz. *diags Eng & Min J* 105:416-17 Mr 2 '18
- Two-ton car and tippie. *diags Eng & Min J* 104:1006 D 8 '17
- Use of side board in loading cars. H. H. Hunner. *diag Eng & Min J* 106:223 Ag 3 '18
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- Mine costs.** *See* Mining costs
- Mine doors**
- Automatic doors for colliery haulage ways. *diags plan Engineer* 127:378 Ap 18 '19
- Finding a mine door set open. *Coal Age* 16:462, 626-8, 660-1 S 11, O 9-16 '19
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- Discharging water from mining plants; mine owner's liability. C. C. Sherlock. *Eng & Min J* 107:311-12 F 15 '19
- How the drainage problem of Edna no. 2 mine was solved. D. J. Baker. *il Coal Age* 16:434-5 S 11 '19
- Keeping water out of chutes. C. T. Rice. *diag Eng & Min J* 106:66 JI 13 '18
- Roosevelt deep drainage tunnel finished. C. B. Harpole. *il diag Sci Am* 120:331+ Ap 5 '19
- Siphon to unwater a mine. J. A. MacDonald. *diags Eng & Min J* 105:599-600 Mr 30 '18
- Unusual method of drainage. *map Coal Age* 13:281 F 9 '18

Water drain for wet roof. R. H. Poston. *diag Eng & Min J* 108:324 Ag 23 '19; Same. *Eng & Contr* 52:324 S 17 '19; Same. *Coal Age* 16:575 O 2 '19

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- Dust abatement in mines. W. O. Borchardt. *Eng & Min J* 106:783-6 N 2 '18
- Dust prevention in Transvaal mines. A. C. Whittome and J. H. Veasey. *Eng & Min J* 106:249-53 Ag 10 '18
- Sampling of dust in mine air. J. Boyd. *diags Eng & Min J* 107:395-6 Mr 1 '19

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Mine equipment

- New type of tire expander for use in coal mines. *il Coal Age* 15:187 Ja 23 '19
- Standardization of mining methods; standard equipment. C. A. Mitke. *diags Eng & Min J* 106:1071-4 D 21 '18

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- Air blasts in the Kolar gold field, India. E. S. Moore. *Am Inst Min E Bul* 135:687-94 Mr '18; Same cond. *Eng & Min J* 105:957-9 My 25 '18; Discussion. *Am Inst Min E Bul* 142:1542-53; 144:1765-6 O, D '18
- Current velocity re mine explosion. J. Verner. *diag Coal Age* 15:676-7 Ap 10 '19
- Effect of the velocity of ventilating current upon mine explosions. G. S. Rice and W. L. Egy. *diag Coal Age* 15:308-9 F 13 '19
- Latest mine holocaust in Pennsylvania. *Eng & Min J* 107:1058-9 Je 14 '19
- Nature of mine explosions. H. E. Gray. *diags Coal Age* 13:930-1 My 18 '18; Discussion. J. Ashworth. 13:1170-1 Je 22 '18
- What caused the explosion? *Coal Age* 13:645, 983, 1126 Ap 6, My 25, Je 15 '18

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Mine fans. *See* Fans, Mine

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- Alabama firebosses' examination Birmingham, Jan. 20-23, 1919. *diag plan Coal Age* 15:729 Ap 17 '19
- Bituminous (Penn.) firebosses' examination, April 11, 1919. *Coal Age* 15:1181; 16:33 Je 26-JI 3 '19
- Coöperation between firebosses and assistant foremen. A. T. Dickson. *Coal Age* 16:528-9 S 25 '19
- Efficiency in firebossing. *Coal Age* 14:1133-4; 15:199-200, 245-6, 417-18, 462-3, 589-90, 679-80, 727, 767-8, 829-30 D 19 '18, Ja 23-30, F 27, Mr 6, 27, Ap 10-My 1 '19
- Examination of a mine. *Coal Age* 12:1069-70; 13:256, 431, 472, 600, 643-4 D 22 '17, F 2, Mr 2-9, 30-Ap 6 '18
- Firebosses as state officials. *Coal Age* 15:544-5, 726, 876, 919, 1178-9; 16:31, 119, 245-6, 334-5 Mr 20, Ap 17, My 8-15, Je 26-JI 3, 17, Ag 7, 21 '19

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Mine fires

- Disastrous mine fire at Villa, W.Va. *Coal Age* 13:1106 Je 15 '18
- Engineering problems encountered during recent mine fire at Utah-Apex mine, Bingham Canyon, Utah. V. S. Rood and J. A. Norden. *diags Am Inst Min E Bul* 138:1093-1104 Je '18
- Fire prevention in anthracite coal mines. M. W. Price. *Coal Age* 16:651-2 O 16 '19
- Hydraulic-filling method to extinguish fires in Butte mines. *Eng & Min J* 104:1026 D 15 '17
- Measures for controlling fires at the Copper Queen mine. G. Sherman. *diags plan Am Inst Min E Bul* 133:169-73 Ja '18; Excerpt. *Eng & Min J* 105:559-60 Mr 23 '18; Discussion. *Am Inst Min E Bul* 136:807-8 Ap '18
- Mudding coal at St Eloy, France. M. A. Plas-sard. *diags plan Coal Age* 15:266-9 F 6 '19
- Sealing off fire on intake. *Coal Age* 13:1173; 14:33, 79, 143, 187-9, 236, 285-6, 373-4 Je 22, JI 6-Ag 8, 22 '18

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Standardization of mining methods; fire protection for metal mines. C. A. Mitke. *il* diags plan Eng & Min J 106:1025-30 D 14 '18

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Mine foremen

Bituminous (Penn.) mine foremen's examination, April 8-10, 1919. Coal Age 15:881, 925 My 8-15 '19

Certification and safety. Coal Age 15:374-5, 766-7, 1010-11, 1094, 1177-8; 16:29-31, 68-9, 293, 245, 288-9 F 20, Ap 24, My 29, Je 12, 26-Jl 10, 31-Ag 14 '19

Coöperation between firebosses and assistant foremen. A. T. Dickson. Coal Age 16:528-9 S 25 '19

Corporal in every squad of eight. Coal Age 14:608-9 S 26 '18

Holding men in the mine. W. H. Noone. Coal Age 13:1168 Je 22 '18

Let the operator get on the job. Coal Age 14: 185, 656-7, 793, 1002-3, 1047-8, 1176-7 Jl 25, O 3, 24, N 28, D 5, 26 '18

Perplexities of mine foremen. Coal Age 14: 656-7, 793, 1002-3, 1047-8, 1176-7; 15:31, 247, 291-2, 334, 375-6 O 3, 24, N 28, D 5, 26 '18, Ja 2, 30-F 20 '19

Prime producer in a coal mine. Coal Age 15: 637, 1011, 1137; 16:459-60 Ap 3, My 29, Je 19, S 11 '19

Problem of the mine foreman. Eng & Min J 107:206 Ja 25 '19

Qualified mine foremen. Coal Age 12:591-2, 690, 734-5, 776-7, 821-2, 903-4, 1071, 1112 O 6, 20-N 10, 24, D 22-29 '17

Selecting mine foremen. J. Lawrence. Coal Age 14:76 Jl 13 '18

Standardize the mine foreman. G. E. Daugherty. Coal Age 12:1108-9 D 29 '17

Tennessee foremen's examination held at Nashville, Sept. 1919; selected questions and answers. Coal Age 16:694 O 23 '19

Tennessee mine foremen's examination, 1918. *diag* Coal Age 13:1129, 1174 Je 15-22 '18

Test of a man's capability. Coal Age 12:380, 642, 860-1; 13:73-4 S 1, O 13, N 17 '17, Ja 12 '18

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West Virginia examination (1918) mine foreman and firebosses. Coal Age 14:757 O 17 '18

When your neighbor is angry. Coal Age 14: 654 O 3 '18

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Mine gases

Barometer vs. outflow of gas. Coal Age 15: 634, 1009-10; 16:159-61, 502-3 Ap 3, My 29, Jl 24, S 18 '19

Bumps and outbursts of gas in the Crowsnest Pass coal field. G. S. Rice. *diags* maps Coal Age 15:660-5 Ap 10 '19

Chart of properties of mine gases. G. A. Burrell. '18 U.S. Bur. mines, Washington, D.C. Clearing a heading of gas. Coal Age 12:823, 990, 1027; 13:31-2, 159, 302, 348, 388 N 10, D 8-15 '17, Ja 5, 19, F 9-23 '18

Conservation of mine gas. Coal Age 12:1029-30; 13:210-12, 345-6 D 15 '17, Ja 26, F 16 '18

Detection of mine gas. Coal Age 13:984 My 25 '18

Effect of breaking of coal on the emission of gas. R. Dunn. Coal Age 16:20 Jl 3 '19

Gas encountered reopening mine. Coal Age 13:894 My 11 '18; Discussion. J. Touhey. 13: 1125-6 Je 15 '18

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Results of analysis of airs from a mine fire. A. G. Blakeley and H. H. Geist. J Ind & Eng Chem 10:552-3 Jl '18

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Testing for gas in mines. H. E. Gray. *diags*

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Utilizing mine gas to save fuel. Coal Age 15:

372-3, 586 F 20-27 '19

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Mine haulage

Anchoring the bullwheel of 3500-horsepower haulage. R. W. Mayer. *diags* Coal Age

16:19 Jl 3 '19

Back to rope haulage. F. A. Pocock. Coal Age

12:1044-5 D 22 '17

Block signal system for coal mines. F. Hus-

kinson. *diags* Coal Age 13:57-9 Ja 12 '18

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Electricity for government nitrate plants; two plants now in process of erection in Alabama. il map Elec W 71:1358-9 Je 29 '18
Muscle Shoals dam to be constructed. Elec W 71:475 Mr 2 '18
Muscle Shoals district. map Met & Chem Eng 18:505-7 My 15 '18
Muscle Shoals nitrate plant. A. M. Fairlie. il Chem & Met Eng 20:8-17 Ja 1 '19
Nature's gift to the electrochemist at Muscle Shoals. W. G. Waldo. il Met & Chem Eng 18:444-6 My 1 '18
Power project is suspended. B. Crowell. Elec W 72:367 Ag 24 '18
United States nitrate plant no. 2 at Muscle Shoals. C: H. Bromley. il diags Power 49: 424-31, 482-8 Mr 25-Apr 1 '19

Museum of the American Indian

- Museum of the American Indian, New York city; views. Arch & Bldg 50:pl 38-9 F '18
New and noteworthy anthropological institution. T. de Booy. il Sci Am S 85:232-4 Ap 13 '18

Museums

- Art of perpetuation; museums the result of man's acquisitiveness. B. Cummings. Sci Am S 85:330-1 My 25 '18

- Museum of decorative design at Cooper Union. Am Inst Arch J 7:124 Mr '19

See also Natural history museums; also Museum of the American Indian; Southwest museum

Music, Indian. *See* Indians of North America—Music**Musical instruments**

- Music and morale in British dominions. Sci Am 119:154 Ag 24 '18

See also Cymbals; Organ; Violin

Musical sands. *See* Singing sands**Musk**

- Musk: its origin and export. A. J. Clements. Sci Am S 88:226-7 O 11 '19

Mussels

- Federal government's mussel farm. il Sci Am 119:316 O 19 '18

Mustard gas

- Continuous vacuum still for mustard gas. E. D. Streeter. diag J Ind & Eng Chem 11: 292-4 Ap '19

- Development of mustard gas. Am Mach 49: 1199-1200 D 26 '18

- Development of mustard gas. F. M. Dorsey. il diags J Ind & Eng Chem 11:287-91 Ap '19
Effect of moisture content on the permeability of fabrics to mustard gas. G. H. Clowes and others. diag J Ind & Eng Chem 11: 1016-19 N '19

- Ethylene chlorohydrin and β,β -dichloroethylsulfide. M. Gomberg. Am Chem Soc J 41: 1414-31 S '19

Mustard oils

- Addition of sodium acetoacetic ester to the aromatic mustard oils. D: E. Worrall. Am Chem Soc J 40:415-23 F '18

Mutarotation

- Mutarotation of gelatin and its significance in gelation. C. R. Smith. Am Chem Soc J 41: 135-50 F '19; Abstract. J Fr Inst 187:503-3, Ap '19

- Mutarotation of glucose and fructose. J. M. Nelson and F. M. Beagle. Am Chem Soc J 41:559-75 Ap '19

Mutual adjustment bureau of the cloth and garment trades

- Organization. Textile World 55:1559+ Mr 8 '19

Mutual benefit societies. *See* Benefit societies**Mycology.** *See* Fungi**Myxomycetes**

- Plant or animal? S. L. Bastin. il Sci Am S 86:149 S 7 '18

N

N C boats. *See* Flying boats**Nail handling**

- Handier hammering. il Sci Am 120:208 Mr 1 '19

Nails

- Links in the history of engineering; the slitting mill. Engineer 125:445-6, 486+ My 24-Je 7 '18

- Nails made from tin scrap. M: Harris. diags Am Mach 51:665 O 2 '19

Nameplates

- How to cast name plates successfully. Foundry 46:576 D '18

Names

See Warships—Names; also subdivision Terminology under various subjects, e.g. Aeronautics—Terminology

Naphthalene

- Abrupt condensation of naphthalene. Gas Age 42:430 N 15 '18

- Naphthalene; discussion. Met & Chem Eng 17:570, 681 N 15, D 15 '17

- Solubility of naphthalene in ammonia. Gas Age 41:28-30 Ja 1 '18

- Standardized method for the determination of solidification points, especially of naphthalene and paraffin. R. M. Wilhelm and J. L. Finkelstein. diags U S Bur Stand Sci Pa 340:185-97 '19

- Use of crude naphthalene as fuel for internal combustion engines. Sci Am S 86:205 S 28 '18

Narrow gage railroads. *See* Railroads, Narrow gage**Nashville, Tennessee****Architecture**

- Architecture of Nashville. il Am Inst Arch J 7:159-70 Ap '19

- Views of Nashville, Tenn. Am Inst Arch J 7:251-8 Je '19

Natalite

- Natalite fuel. H. A. Findley. Automotive Ind 40:59 Ja 9 '19

- New engine fuels. Sci Am 119:194 S 7 '18

National academy of design

- Leadership in art. H. R. Butler. Am Arch 115:341-2 Mr 5 '19

National Acme company, Cleveland, Ohio

- New National Acme screw products plant. il Mach 26:120-2 O '19

National advisory committee for aeronautics. *See* United States—National advisory committee for aeronautics**National alliance of employers and employed** Reconstruction. A. H. Paterson. Engineer 125: 215 Mr 8 '18**National association building.** *See* Office buildings**National association of box manufacturers**

- 19th annual convention. Am Lumberman 2236: 50 Mr 23 '18

National association of brass manufacturers Annual meeting, New York city, Dec. 12-13 Dom Eng 81:507 D 22 '17

- Spring meeting, French Lick, Ind., March 27-28. Metal Ind 16:235 My '18

National association of builders' exchanges

- Annual convention, Pittsburgh, Feb. 5-7. Bldg Age 40:162-3 Mr '18

- National association of corporation schools**
Industrial democracy. F. C. Henderschott. Eng & Min J 108:267 Ag 16 '19
Purpose of the association. Power 46:849 D 18 '17
Survey on plans for improving industrial relations. Elec R 75:202-3 Ag 2 '19
- National association of cotton manufacturers**
Address. W. F. Shove. Textile World 54:2296-8 N 9 '18
Annual convention, New York, April 23-25. 2496-8+ Ap 26 '19
Boston convention. Textile World 54:2294-8+ N 9 '18
Business meeting, May 3. Textile World 53:5144+ My 4 '18
Combined gathering of cotton manufacturers. Textile World 53:5137-40+ My 4 '18
Completes organization. Textile World 53:5563 My 18 '18
Conference on war problems in the textile industry. Boston, Jan. 18. Textile World 53:3449-50+ Ja 26 '18
New president and directors; portraits. Textile World 53:5134 My 4 '18
New work of association. R. R. Wilson. Textile World 53:2960 Ja 12 '18
Reports of permanent committees. Textile World 53:5144+ My 4 '18
Reports of permanent committees on industry. Textile World 54:2309+ N 9 '18
Some present activities. R. R. Wilson. Textile World 55:221+ Ja 11 '19
- National association of electrical contractors and dealers**
Annual convention, Milwaukee, July 16-18. Elec R 75:144-8 J1 26 '19
1st meeting under the new form of organization, Cleveland, July 17. Elec W 72:124, 173-4 J1 20-27 '18; Elec R 73:134-6 J1 27 '18
Organization of contractor-dealer association perfected. Elec R 72:158-9 Ja 26 '18
- National association of electrical inspectors**
Questions on the National electrical code, with replies by members of the executive committee of the National association of electrical inspectors. Elec R 72:251-2, 531-2 F 9, Mr 23 '18
Reconstruction convention, Springfield, Mass., Oct. 13-15. Elec W 74:848 O 18 '19; Elec R 75:705-8 O 25 '19
- National association of employment managers**
Convention, Cleveland, Ohio, May 21-23. Iron Age 103:1442-4 My 29 '19; Am Mach 50:1103-4 Je 5 '19; Ind Management 57:489-503f Je '19
- National association of garment manufacturers**
19th semi-annual convention, Chicago, May 14-17. Textile World 53:5569+ My 18 '18
- National association of general contractors**
Proposed constitution. Eng & Contr 50:388 O 23 '18
- National association of hosiery and underwear manufacturers**
4th annual meeting of the western members, Chicago, Dec. 12. Textile World 54:3093-4 D 21 '18
14th annual meeting, Philadelphia, May 20-23; list of those present. Textile World 53:5713-18+ My 25 '18
15th annual convention, Philadelphia, June 3-5. Textile World 55:3459-60+ Je 7 '19
Knitting arts exhibition in Philadelphia. II Textile World 53:5751-66 My 25 '18
List of exhibitors at the exhibition in Philadelphia. plans Textile World 53:5566-8 My 18 '18
- National association of manufacturers**
23d annual convention, May, 1918, with abstracts of reports. Am Ind 18:7-19 Je '18
24th annual convention, New York city, May 19-21. Am Ind 19:7-17 Je '19
- National association of master plumbers**
Message to the master plumbers of the United States. F. B. Lasette. Dom Eng 88:310-11 Ag 16 '19
36th annual convention, St Louis, Mo., June 4-6. Dom Eng, 83:364-77 Je 8 '18; Metal Work 89:780-93 Je 14 '18
- 37th annual convention, Atlantic City, N. J., June 17-19. Dom Eng 87:566-85, 588-96 Je 28 '19; Metal Work 91:841-7 Je 27 '19
- National association of master steam and hot water fitters.** See Heating and piping contractors' national association
- National association of owners of railroad securities**
Committee hearings on railway legislation. Ry R 65:263 Ag 23 '19
Security owners' counsel replies to Judge Lovett's criticism. Ry R 65:185-90 Ag 9 '19
- National association of purchasing agents**
Annual convention, Detroit, Sept. 23. Automotive Ind 39:532-3 S 26 '18
Pittsburgh convention, J. E. Schipper. Automobile 37:675-6 O 18 '17
- National association of railroad tie producers**
Organization. Ry Age 66:343-8 F 7 '19; Ry R 64:178-9, 233-4 F 1-8 '19; Am Lumberman 2282:51 F 8 '19
- National association of railway and utilities commissioners**
30th annual convention, Washington, Nov. 12. Ry Age 65:851-8 N 15 sec 1 '18; Ry R 63:737-43 N 23 '18
31st annual convention, Indianapolis, Ind., October 14-16. Ry Age 67:931-9 N 7 '19; Elec Ry J 54:824-6 N 1 '19
- National association of real estate boards**
12th annual convention, Atlantic City, June. D. K. Boyd. Arch Forum 31:51-2 Ag '19
- National association of sheet metal contractors**
Activities of apprenticeship committee. Metal Work 89:72-3 Ja 11 '18
- 14th annual convention, Milwaukee, June 11-14. Metal Work 89:320-33 Je 21 '18
- 15th annual convention, Columbus, Ohio, June 10-13. Metal Work 91:795-801 Je 20 '19
- National association of stationary engineers**
Convention of the New England States association, Bridgeport, Conn., July 10-13. Power 48:138-9 J1 23 '18
Ohio state association annual convention, Cincinnati, Sept. 8-9. Power 48:472 S 24 '18
36th annual convention, Cincinnati, O., Sept. 9-13. Power 48:468-70 S 24 '18
37th annual convention, Huntington, W.Va., Sept. 2. Power 50:484 S 16 '19
- National association of stove manufacturers**
47th annual meeting, New York, May 6-9. Metal Work 89:643-6 My 17 '18
- National association of waste material dealers**
6th annual meeting, New York, March 18-19. Metal Ind 17:163 Ap '19
- National association of wool manufacturers**
Annual meeting, Boston. Textile World 55:1036-7+ F 8 '19
53d annual meeting, New York, Feb. 6. Textile World 53:3694 F 9 '18
- National association of woolen & worsted overseers**
37th semi-annual meeting, Philadelphia, June 7. Textile World 55:3656 Je 14 '19
- National association of worsted and woolen spinners**
Annual meeting, New York, May 9. Textile World 53:5409 My 11 '18
Second annual meeting, New York. Textile World 55:2987 My 17 '19
- National automobile chamber of commerce**
Annual convention of service managers, Detroit. Motor Age 36:7-12 N 20 '19
Annual meeting, New York, June 6-7. Motor Age 33:18 Je 13 '18
Convention, Feb. 11. Automotive Ind 40:352-3 F 13 '19
Truck makers war convention. Horseless Age 43:43 Ja 15 '18; Automotive Ind 38:144-5+ Ja 10 '18
- National automobile dealers' association**
Annual convention, Chicago, Feb. 4-5. F. M. Loomis. Motor Age 35:7-10 F 6 '19

National board of fire underwriters

Education to minimize electrical fire losses; fire-prevention manual for school children. Elec R 72:1006-7 Je 15 '18

National bureau of wholesale lumber distributors

Organization. Am Lumberman 2244:42 My 18 '18

National capital building commission

National capital building commission report. Am Arch 113:65 Ja 16 '18

National cash register company

58,000 square feet of floor space in 30 days. Il Ind Management 56:134 Ag '18

National characteristics

Have Americans national characteristics? Sci Am 119:308 O 19 '18

National coal association

Activities of the association during 1918. J. D. A. Morrow. Coal Age 15:111-12 Ja 16 '19

Annual meeting, Philadelphia, May 28. Coal Age 13:1015-17 Je 1 '18; Power 47:891-2 Je 18 '18

Meeting, Chicago, May 22-24. Coal Age 15:1000-1 My 29 '19

National organization, for coal operators. J. D. A. Morrow. Coal Age 13:114 Ja 19 '18

Planning for peace activities. Coal Age 15:149-50 Ja 16 '19

National coal jobbers' association

2d annual convention, Buffalo, N. Y., June 4-5. Coal Age 13:1110 Je 15 '18

National commercial gas association

Plans for amalgamation of the American gas institute and the National commercial gas association rapidly approaching completion. Am Gas Eng J 108:235-6, 365-9 Mr 9, Ap 20 '18; Gas Age 41:423-4 My 1 '18

National committee of the confederated supply associations

Meeting, Cleveland, O., May 15. Metal Work 89:658-9 My 24 '18

National conference on gas and electric service

Report of recent activities. Elec R 71:1061-2; 72:558-9 D 22 '17, Mr 30 '18; Elec W 71:428, 688, 739 F 23, Mr 30-Ap 6 '18

Review of the committee's achievements. Elec R 72:990-1 Je 15 '18

National conference for good city government

26th conference, New York, June 5-7. Munic J 44:499+ Je 15 '18

National conference of tractor manufacturers

Manufacturers of tractors organize. Automotive Ind 38:612 Mr 21 '18

National conference on Americanization in industries

Meeting, Boston, June 23-24. Am Ind 19:17-18 J1 '19

National conference on city planning

11th meeting, Niagara Falls and Buffalo, May 26-28. Eng N 82:1133-4 Je 5 '19; Munic J 47:60+ J1 26 '19

National conference on war economy

Conference considers ways and means for securing greater economy and efficiency in public expenditures. Eng N 80:1151+ Je 13 '18

National council for industrial defense

1st meeting of the newly appointed Advisory committee. Am Ind 18:13-14 Mr '18

National council of American cotton manufacturers

Co-operative war work of cotton associations. W. D. Adams. Textile World 55:289+ Ja 11 '19

Members; portraits. Textile World 53:5136 My 4 '18

National council of lighting fixture manufacturers

Representatives of fixture and illuminating glassware manufacturers' organize at Pittsburgh. Elec R 74:311 F 22 '19

National defense, Council of. See Council of national defense**National district heating association**

Cooperation between the National district heating association and the American so-

ciety of heating and ventilating engineers. D. L. Gaskill. Am Soc Heat & V E 23:585-90; Discussion. 591-4 '17

Meeting of executive committee takes place of annual convention. Heat & Ven 15:61-2 S '18

10th annual meeting, Pittsburgh, June 10-13. Dom Eng 87:487, 530-2 Je 14-21 '19; Heat & Ven 16:38-54 J1 '19; Metal Work 91:811-13 Je 20 '19; Power 49:992-3 Je 24 '19

National editorial association

Annual convention, Little Rock and Hot Springs, Arkansas, June 3-8. Inland Ptr 61:509-12 J1 '18

National electric light association

Abstracts of committee reports and papers presented at the annual convention, Atlantic City, May 20-22. Elec R 74:849-59 My 24 '19

Activities of the N.E.L.A. R. H. Ballard. Elec R 75:527-8 S 27 '19

Annual convention; Pacific Coast section meets with the Pacific division of the Electrical supply jobbers' association and the California association of electrical contractors and dealers. Il Elec W 71:1036-40 My 18 '18

Committees on water power and co-operation; personnel. Elec R 75:954 D 6 '19

East and West meet. Elec W 73:1256-7 Je 14 '19

Epitomizes electric power situation at its annual convention, Atlantic City. Elec Ry J 53:999-1004 My 24 '19

42nd annual convention, Atlantic City, May 19-22. Elec R 74:775-82 My 17 '19; Elec Ry J 53:1053-5 My 31 '19; Elec W 73:1076-1101 My 24 '19; Power 49:834-6 My 27 '19; J Elec 42:596-9 Je 15 '19

Large plans for commercial section work. plan Elec W 74:486-7 Ag 30 '19

Meeting of the Executive committee, New York city, Sept. 13. Elec R 73:502 S 28 '18

Meeting of the Executive committee of the Commercial section, Association Island, N.Y. Elec R 75:405-6 S 6 '19

Michigan section 6th annual convention, Ottawa Beach, Aug. 26-28. Elec R 75:359-60 Ag 30 '19

N.E.L.A. administration commences active work. Elec W 74:313-14 Ag 9 '19

N.E.L.A. lamp committee report; review. G. F. Morrison. Il Gen Elec R 22:767-75 O '19

N.E.L.A. lighting exhibit. G. F. Morrison. Il Gen Elec R 22:776-82 O '19

Plans of Advertising and publicity bureau, N. E. L. A. plan Elec R 75:573-4 O 4 '19

Program for 42d annual convention, Atlantic City, N.J., May 19-22. Elec W 73:802-3 Ap 19 '19; Same. Elec R 74:680-2 Ap 26 '19

Re-awakening of the electrical industry under the leadership of the National electric light association. R. H. Ballard. Elec R 74:982-4 Je 14 '19

Southeastern section, Asheville, N.C., annual convention, Sept. 17-19. Elec W 74:719-21 S 27 '19

Telegraphic report of proceedings of the fifteen sessions of the Atlantic City convention. Elec R 74:831-45 My 24 '19

3rd annual convention of the Pacific coast section, Coronado Beach, California, April 30-May 2. Elec W 73:903, 947-50 My 3-10 '19; Elec R 74:753-7 My 10 '19; J Elec 42:475-91 My 15 '19

34th annual meeting and 41st convention, Atlantic City, N.J., June 13-14. Elec R 72:992-8 Je 15 '18; Elec Ry J 51:1180-3 Je 22 '18; Elec W 71:1248-53 Je 15 '18; Power 47:926-8 Je 25 '18; Munic J 45:42+ J1 13 '18

Three and one-half years of achievement. A. E. Wishon. J Elec 43:109-10 Ag 1 '19

War convention of New England section, Springfield, Mass., Sept. 27-28. Elec W 72:656-9 O 5 '18; Elec R 73:540 O 5 '18

Public policy committee

Report of Public policy committee. J. A. Britton. J Elec 42:479-83 My 15 '19

National electrical code

Changes in electrical committee in charge of code. Elec R 73:215 Ag 10 '18

National electrical code—Continued

- Combined electrical fire and safety code. M. G. Lloyd. Elec R 74:178-80 F 1 '19
- Devereux's list of changes in the 1918 edition of the National electrical code. Elec R 73: 902-4, 945-7 D 7-14 '18; Correction. Elec W 73:1342 Je 21 '19
- Discussion of code rule on interbuilding connections. H. S. Wynkoop. Elec R 75:882-3 N 22 '19
- Discussion of code rules on high-potential systems. G. S. Lawler. Elec R 75:822-4 N 15 '19
- Electrical code covering both fire and accident prevention. Elec R 73:629-30 O 19 '18
- Electrical committee of the National fire protection association expands its organization for revision of National electrical code. Elec R 74:426-7 Mr 15 '19
- Questions on the National electrical code, with replies by members of the executive committee of the National association of electrical inspectors. Elec R 72:251-2, 531-2 F 9, Mr 23 '18
- Report of committee. Elec R 74:180-1 F 1 '19
- Revision of code rules on motors and related subjects. Elec R 74:1092 Je 28 '19; Same. Elec W 73:1405 Je 28 '19
- Structural service department. Am Inst Arch J 6:315 Je '18
- Suspension of the rule calling for marking of wires to facilitate polarity identification. Elec W 72:268 Ag 10 '18; Same. Elec R 73: 222 Ag 10 '18
- See also* National electrical safety code
- National electrical contractors and dealers' association**
- Standardized accounting system. chart J Elec 43:168-70 Ag 15 '19
- National electrical contractors' trading association**
- Electrical contractors' association of England forms separate corporation to guarantee work of its members. Elec R 72:207 F 2 '18
- National electrical credit association**
- 20th annual meeting, Cincinnati, June 13-14. Elec R 74:1039-40 Je 21 '19
- National electrical proving house, Great Britain**
- Scheme for an electrical proving house. Inst E E J 56:26-7 Je '18
- National electrical safety code**
- Combined electrical fire and safety code. M. G. Lloyd. Elec R 74:178-80 F 1 '19
- Electrical code covering both fire and accident prevention. Elec R 73:629-30 O 19 '18
- Is the National electrical safety code suitable for California? E: B. Rosa. J Elec 43:57-9 J 15 '19
- National electrical safety code. G: E. Quinan. J Elec 43:54-7 J 15 '19
- Proposed changes in part I, National electrical safety code. Elec R 75:580-1 O 4 '19
- Proposed changes in part II, National electrical safety code. Elec R 75:944-8, 982-6 D 6-13 '19
- Rules for the installation and maintenance of electrical utilization equipment. Elec R 72: 467-71, 527-8, 566-9, 607-8, 639-41, 689-91 Mr 16-Apr 20 '18
- Safe installation of electrical utilization equipment. Elec R 72:434-5 Mr 9 '18
- Scope and application. U S Bur Stand Circ 72:1-84 '18
- Structural service department. Am Inst Arch J 6:315-16 Je '18
- Year's progress in electrical safety work. M. G. Lloyd. Elec R 72:33-5 Ja 5 '18
- National engineering council**
- Scheme of organization for National engineering council suggested. L. B. Smith. Eng N 83:190 J 24 '19
- National fire protection association**
- Important matters discussed at 23rd annual meeting, Ottawa, Ontario, Canada, May 6-8. Am Arch 115:814 Je 11 '19
- Meeting, New York, March 4-5. Elec W 73: 542-3 Mr 15 '19
- Personnel of Underwriters' electrical committee. Elec W 72:218 Ag 3 '18

22d annual convention, Chicago, May 7-9. Am Lumberman 2243:49 My 11 '18; Munic J 44:460+ Je 1 '18

National foreign trade council

- Delegates from iron, steel, machinery and allied trades at 1918 convention. Iron Age 101:1118-19 Ap 25 '18
- 5th annual convention, Cincinnati, April 18-20. Am Lumberman 2240:37; 2241:46-7 Ap 20-27 '18; Automotive Ind 33:805-6 Ap 25 '18; Iron Age 101:1008-72+ Ap 25 '18; Iron Tr R 62:1059-62 Ap 25 '18; Ry Age 64:1061-3 Ap 26 '18

Less government interference is the demand of foreign trade convention. A. Sinsheimer. Automotive Ind 40:933-41 My 1 '19

6th National foreign trade convention, Chicago, April 24-26. Ry Age 66:1087-90 My 2 '19; Iron Age 103:1161-8 My 1 '19

National forests. See Forest reserves**National founders' association**

22d annual convention, New York, Nov. 13-14. Iron Age 102:1280-1 N 21 '18; Iron Tr R 63:1189-91 N 21 '18

National gas safety code

Work of U.S. Bureau of standards in gas field told in annual report. S. W. Stratton. Am Gas Eng J 110:24-5 Ja 11 '19

National good roads show

10th show, New York, Feb. 25-28. il plan Good Roads n s 17:108-10+ Mr 8 '19

National guard (United States). See United States—Militia**National hardware association**

7th annual meeting, Pittsburgh, May 24-25. Iron Age 101:1418-19 My 30 '18; Metal Work 89:717-20 My 31 '18

National hardwood lumber association

21st annual convention, Chicago, June 20-21. Am Lumberman 2249:38-41+; 2250:47-53 Je 22-29 '18

22d annual convention, Chicago. Am Lumberman 2301:55-8; 2302:51-5 Je 21-28 '19

National highway traffic association

Annual meeting, New York, May 14. Good Roads n s 17:217 My 17 '19; Eng N 82:1036 My 22 '19

National industrial council for waterworks undertakings

Inaugurated, April 3rd, 1919. A. B. Pilling. Engineer 128:28, 30 J 11 '19

National industrial traffic league

Annual convention, Cincinnati, Nov. 20-21. Ry Age 65:963-6 N 29 '18

Annual meeting, Chicago, Nov. 12-13. Ry Age 67:1013-14 N 21 '19

Meeting, Buffalo, N.Y., Aug. 29-30. Ry Age 65: 453-5 S 6 '18

Spring meeting, Chicago, March 21-22. Ry Age 64:792-3 Mr 29 '18

Spring meeting, New Orleans, March 11-12. Ry Age 66:837-8 Mr 28 '19

National labor board. See United States—National war labor board**National lime association (formerly National lime manufacturers association)**

Reorganization. Concrete 15:sup74 N '19

National lime manufacturers association

16th annual meeting, Cleveland, O., June 19-20. Concrete 13:sup6 J '18

National lumber manufacturers' association

Opportunity. W. Compton. Am Lumberman 2232:49-50 Ap 19 '19

16th annual meeting, Chicago, May 20-22. Am Lumberman 2245:44-54 My 25 '18

National machine tool builders' association

Annual meeting, New York, Dec. 10-11. Am Mach 49:1149-50 D 19 '18

18th annual convention, New York, Oct. 15-16. Iron Tr R 65:1136-7 O 23 '19; Iron Age 104:1078-9 N 27 '19; Mach 26:275 N '19

Semiannual convention, Atlantic City, N. J., May 16-17. Iron Age 101:1330-4+ My 23 '18; Iron Tr R 62:1331-3 My 23 '18; Am Mach 48:959-67 Je 6 '18

- National machine tool builders' assn.—Cont.**
Semi-annual meeting, Atlantic City, May 12-13. Am Mach 50:1004-5 My 22 '19; Iron Age 103:1290-2 My 15 '19; Mach 25:924-5 Je '19
- National merchant marine association**
Organized as a result of a convention held in Washington on Jan. 23-24. Marine R 49:149 Mr '19
- National metal trades association**
20th annual convention, New York, April 24-25. Iron Age 101:1136-41+ My 2 '18; Iron Tr R 62:1125-7 My 2 '18
21st annual convention, New York, April 23-24. Am Mach 50:871-2 My 1 '19; Iron Age 103:1153-7 My 1 '19; Iron Tr R 64:1157-9 My 1 '19
- National non-partisan league**
Farmers' non-partisan league. F. G. R. Gordon. Am Ind 18:14-15 F '18
Menace of the Non-partisan league. W. H. Barr. Iron Age 101:1141+ My 2 '18
- National parks**
See Forest reserves; Zion national monument
- National physical laboratory, Great Britain**
National industrial research laboratory. R. Glazebrook. Engineer 125:180-1 Mr 1 '18; Same. Eng & Contr 50:423-5 O 30 '18
Scheme for an electrical proving house. Inst E E J 56:26-7 Je '18
- National pipe and supplies association**
9th annual convention, Cleveland, O., May 13-14. Dom Eng 83:255-7 My 18 '18; Iron Age 101:1351 My 23 '18; Metal Work 89:680-3 My 24 '18
10th annual convention, Pittsburgh, Pa., May 12-13. Dom Eng 87:297-9 My 17 '19; Metal Work 91:621-3 My 16 '19
- National railway appliances association**
Exhibition in Chicago. Iron Tr R 62:734-5 Mr 21 '18
10th annual meeting, Chicago, March 19. Ry R 62:113-4 Mr 23 '18
- National research council**
Annual meeting division of chemistry and chemical technology. J Ind & Eng Chem 11:481-3 My '19
Council made permanent. Eng N 80:1017 My 23 '18
Division of engineering of the National research council. G. H. Clevenger. Mech Eng 41:631 Jl '19
International research; work of American and British societies on steel—flakes in gun steel. H. M. Howe. Iron Age 103:1710 Je 26 '19
Meetings of the executive committee of the division of chemistry and chemical technology. J Ind & Eng Chem 11:694-7 Jl '19
National engineering societies and the National research council. G. E. Hale. Am Inst E E Pro 37:1223-36 O '18; Same. Am Soc M E J 40:825-9 O '18; Excerpts. Am Inst Min E Bul 142:sup38-42 O '18
National research council. Mech Eng 41:559 Je '19
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- Nebraska master plumbers hold 10th annual convention at Omaha. Dom Eng 82:452+ Mr 23 '18; Metal Work 89:403-4 Mr 22 '18
- Nebraska master plumbers' 11th annual convention, Omaha, Neb., March 12-13. Dom Eng 86:518-20 Mr 22 '19; Metal Work 91:382-3 Mr 21 '19
- New Jersey association of master plumbers holds convention at East Orange, N.J., May 14-16. Metal Work 89:683-7 My 24 '18; Dom Eng 83:296-8 My 25 '18
- New York state master plumbers hold 30th annual convention in New York city. Dom Eng 82:450-1+ Mr 23 '18; Metal Work 89:399-403 Mr 22 '18
- New York state master plumbers' 31st annual convention, Buffalo, N.Y., March 11-12. Dom Eng 86:521-4+ Mr 22 '19
- Ohio master sheet metal contractors' association 4th annual convention. Metal Work 90:133-5 Ag 2 '18
- Ohio state association of master plumbers 27th annual convention, Dayton, Feb. 5-7. Dom Eng 82:258-60+ F 16 '18
- Ohio state association of master plumbers 28th annual convention, Feb. 11-13. Dom Eng 86:348-53+ F 22 '19
- Oklahoma master plumbers annual convention, Oklahoma City, April 8-9. Dom Eng 87:108-11 Ap 19 '19
- Pennsylvania state association of master plumbers' 35th annual convention. Dom Eng 83:250-2 My 13 '18
- Remarkable success attends plumbing and heating contractors' convention of progress state. Dom Eng 88:488-90 S 13 '19
- Wisconsin master plumbers 24th annual convention, Milwaukee, Jan. 15-16. Dom Eng 82:95+ Ja 19 '18
- Wisconsin master plumbers' association 25th annual convention. Dom Eng 86:178-80 Ja 25 '19
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- Plumbing in a camp hospital. diags Metal Work 90:578 N 22 '18
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- Bureau of standardization of plumbing materials formed at special meeting in Chicago. Dom Eng 88:540-2 S 20 '19; Metal Work 92:349-51 S 19 '19
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- Harvard school of architecture on plumbing. Metal Work 92:125-7 Ag 1 '19

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- Proportioning the sizes of mains and risers. diag Dom Eng 88:158 Jl 26 '19
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- Modern plumbing work proved by test. il Metal Work 92:156-9 Ag 8 '19
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- Back venting versus simplified plumbing. il diags plans Am Arch 115:795-804 Je 4 '19; Same. Metal Work 92:219-21+, 254-6, 282-4 Ag 22-S 5 '19
- Grease interception from house sewage. H. J. Belmont. diags Dom Eng 88:249-51+ Ag 9 '19
- Grease traps in plumbing. R. J. Gordon. diags Dom Eng 84:464-6+ S 28 '18
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- Main house trap. E. Newsome. Metal Work 90:476 O 25 '18
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- Plumbing ventilation. R. J. Gordon. diags Dom Eng 86:33-5 Ja 4 '19
- Something about back-venting plumbing fixtures in large toilet rooms. R. J. Gordon. diags plan Dom Eng 87:50-2+, 240-2, 271 Ap 12, My 10 '19

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- Can a plumber collect for work done in a new building which collapsed before the work had been completed? Dom Eng 82:375+ Mr 9 '18
- Doing extras on a plumbing contract without agreeing on price before hand. Dom Eng 82:340-1 Mr 2 '18
- Doing work on percentage basis is risky. B. Thur. Metal Work 91:22 Ja 3 '19
- How much protection is afforded the plumber and steam fitter under the standard form of subcontract? Dom Eng 89:269-70 N 8 '19
- Mistake in name of fixture ordered by customer may or may not avoid the agreement, according to the other facts. Dom Eng 86:433-4 Mr 8 '19
- Overhauling the plumbing in an old colonial mansion. R. J. Gordon. Dom Eng 89:71-4 O 11 '19
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- Suggestions as to form of contract. Dom Eng 82:447-8 Mr 23 '18
- What is the measure of a plumber's damages when a customer refuses to carry out a contract? Dom Eng 88:257-8 Ag 9 '19
- With one ear at the receiver. W. W. Hughes. Dom Eng 81:439 D 15 '17

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Uniform prices of plumbing fixtures. W. W. Hughes. Dom Eng 83:330 Je 1 '18

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Dual water supply and cross connections. J: G. Mitchell. Metal Work 89:453-4 Ap 5 '18

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- Plumbing shop on wheels. il Dom Eng 89:174-5 O 25 '19
- Should plumbing fixtures be priced in window displays? C: H. Rosemont. il Dom Eng 87:94-5, 381-4; 89:375-6 Ap 19, My 31, N 22 '19
- When the new wears off. A. W. Williams. Dom Eng 89:225-6 N 1 '19
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- What the master plumber should know about selling electrical appliances. T: F. Chantler. Dom Eng 89:117-19 O 18 '19
- What the plumber should know about the advertising of electrical appliances. H. C. H. Griffith. Dom Eng 88:300 Ag 16 '19

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- Getting together to sell the farmer. *il* Dom Eng 88:440-1+ S 6 '19
- Higher standards in plumbing. J: H. Perry. Dom Eng 86:168-9 Ja 25 '19
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- Something on the cost of doing business. Metal Work 92:364-7 S 26 '19
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- Putting pep into publicity. C: Bishop. Dom Eng 88:153-5+ Jl 26 '19
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- Suggestions for the farm water supply campaign. F. S. Hanley. Dom Eng 82:494 Mr 30 '18
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- Continuous rail at cross-overs. F. C. Perkins. *il Sci Am* 121:394 O 18 '19
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- Electric switch machines with distant control. *diags Ry Age* 64:1041-3 Ap 19 '18
 Good advice in switching. *Ry R* 62:115-16 Ja 26 '18
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- Car costs at terminals. R. M. Woolley. *Ry R* 65:537 O 11 '19
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- Ticket agent as a salesman; abstracts. G. A. Cullen. *Ry Age* 66:943-4 Ap 11 '19; *Ry R* 64:613-14 Ap 26 '19

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New machines facilitate track maintenance work. *il Eng N 80:506-7 Mr 14 '18*

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- Sketch. Coal Age 16:232-3 Ag 7 '19

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Shawinigan Falls, Canada

- Electrochemical industries at Shawinigan Falls. H. C. Randall. il Chem & Met Eng 19:561-5 O 1 '18

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- Buffalo universal slitting shear. il Am Mach 48:1124 Je 27 '18; Iron Age 101:1549 Je 13 '18
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Bliss flat-edge trimmer for sheet metal. *il*
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- Bailly automatic electric furnace for heat treating shells. *il* Met & Chem Eng 18:156 F 1 '18
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- Uncle Sam a three-plow tractor model. *il Motor Age* 36:50-1 J1 17 '19
- Using the Liberty motor. P. G. Tismer. *Sci Am* 121:9 J1 5 '19
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Turret lathe practice. E. Oberg. *il diag*s
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